

Macomb County Health Department
Pandemic Influenza Response Plan

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Version 3.0

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I. INTRODUCTION

Severe influenza pandemics represent one of the greatest potential threats to the public's health. Pandemics are distinct from seasonal influenza epidemics which cause an average of 36,000 deaths annually in the United States. Seasonal influenza epidemics are caused by influenza viruses which circulate around the world. Over time, people develop some degree of immunity to these viruses, and vaccines are developed annually to protect people from serious illness. Pandemic influenza refers to a worldwide epidemic due to a new, dramatically different strain of influenza virus. A pandemic virus strain can spread rapidly from person-to-person and, if severe, can cause high levels of morbidity and mortality around the world.

Pandemic viruses develop in two main ways. First, wild birds are the reservoir for all influenza viruses. Most avian influenza viruses do not infect or cause significant disease in humans. However, new pandemic influenza viruses can arise when avian influenza viruses acquire the ability to infect and cause disease in humans, and then spread rapidly from person-to-person. Second, all influenza viruses experience frequent, slight changes to their genetic structure over time. Occasionally, however, influenza viruses can undergo a major change in genetic composition through the combination of an avian and human virus resulting in a new pandemic virus.

The creation of a novel influenza virus means that most, if not all, people in the world will have never been exposed to the new strain and have no immunity to the virus. It also means that new vaccines must be developed and therefore are not likely to be available for months, during which time many people could become infected and seriously ill.

During the 20th century, three pandemics occurred that spread worldwide within a year. The influenza pandemic of 1918 was especially severe, killing a large number of young, otherwise healthy adults. It is now known that this pandemic was caused by an avian influenza virus that suddenly developed the ability to infect humans and to easily spread from person-to-person. The pandemic caused more than 500,000 deaths in the United States and more than 40 million deaths around the world. Subsequent pandemics in 1957-58 and 1968-69 caused far fewer fatalities in the United States, 70,000 and 34,000 deaths respectively, but caused significant morbidity and mortality around the world. These two pandemics were caused by an influenza virus that arose from genetic re-assortment between human and avian viruses.

The Centers for Disease Control and Prevention estimates that in the United States alone, a moderate to severe influenza pandemic could infect up to 100 million people and cause between 200,000 and 1.9 million deaths. The worldwide public health and scientific community has become increasingly concerned about the potential for a pandemic to arise from the widespread and growing avian influenza A (H5N1) outbreak. Although many officials believe it is inevitable that future influenza pandemics will occur, it is impossible to predict the exact timing or severity of these outbreaks.

Potential Impact of an Influenza Pandemic on the United States and Macomb County				
	Persons Infected	Outpatient Visits	Persons Hospitalized	Deaths
United States	100 million	45 million	1-10 million	200,000-1.9 million
Macomb County	340,000	200,000	5,000	1,500

There are several characteristics of an influenza pandemic that differentiate it from other public health emergencies. First, a pandemic has the potential to suddenly cause illness in a very large number of people. This could easily overwhelm the healthcare system throughout the nation. A pandemic could also jeopardize essential community services by causing high levels of absenteeism in every workforce. It is likely that a vaccine against the new virus would not be available for six to eight months following the emergence of a pandemic virus. Basic services, such as healthcare delivery, law enforcement, emergency response, communications, transportation, and utilities, could be disrupted during a pandemic. Finally, a pandemic, unlike many other emergency events, could last for several weeks, if not months.

II. PLANNING ASSUMPTIONS

- A. An influenza pandemic will result in the rapid spread of infection with outbreaks throughout the world. Communities around the State of Michigan and Macomb County will likely be impacted at the same time. For this reason Macomb County will not be able to rely on mutual aid resources or State or Federal assistance with response activities.
- B. There could be significant disruption of community services such as transportation and public safety because of illness-related absenteeism in the workforce.
- C. Birds with avian influenza may arrive and cause avian outbreaks prior to the onset of a human pandemic impacting domestic poultry, wild birds and other animals in the United States and Michigan.
- D. A vaccine against a pandemic influenza virus strain will likely not be available for 6-8 months following the emergence of a novel virus. The demand for vaccine will initially exceed the available supply and administration will need to be prioritized.
- E. Antiviral medications may be useful in controlling and preventing influenza prior to the availability of a vaccine. However, antiviral medications are in limited supply and production can not be rapidly expanded.
- F. An influenza pandemic will place a substantial burden on inpatient and outpatient healthcare services. Demands for medical supplies, medical equipment (e.g., ventilators), and hospital beds may exceed available resources for weeks or months. Illness-related absenteeism among

healthcare workers will further strain the ability of the healthcare system to respond to a pandemic.

- G. Simple infection control measures (such as handwashing, respiratory etiquette, and staying home when sick) will be necessary to control the spread of influenza and may be the most important and only available control measures early in a pandemic.
- H. Quarantine measures may be beneficial during the earliest phases of a pandemic especially in response to an influenza virus that has not achieved the ability to spread easily from person-to-person. Once significant person-to-person transmission has been established quarantine of exposed individuals will be of limited value in preventing further spread of the disease.
- I. Social distancing strategies aimed at reducing the spread of infection such as the closing of schools, community centers, and other public gathering places and the cancellation of public events may be implemented during a pandemic.
- J. The number of fatalities experienced during a pandemic could overwhelm the resources of the Medical Examiner's Office, hospital morgues, and funeral homes.
- K. The communication of clear, concise and accurate information about pandemic influenza, the course of the pandemic, and response activities will increase public awareness and limit panic and speculation.

III. PURPOSE OF THE PLAN

The purpose of the Macomb County Health Department Pandemic Influenza Response Plan is to provide guidance to the Department for the response to an influenza pandemic. The Plan is intended to be used in conjunction with the Michigan Department of Community Health Pandemic Influenza Plan and the United States Department of Health and Human Services Pandemic Influenza Plan. The Macomb County Health Department Plan will be updated and revised as necessary. Specifically the purpose of the Plan is to:

- A. Provide technical information on which preparedness and response actions are based.
- B. Describe public health interventions that will be used during a response to a pandemic and the timing of these interventions.
- C. Serve as a guide for healthcare system partners, other government agencies and departments, businesses and schools in the development of pandemic influenza response plans.

IV. SCOPE OF THE PLAN

- A. The Macomb County Health Department Pandemic Influence Response Plan primarily focuses on the roles, responsibilities, and activities of the Macomb County Health Department. However, specific responsibilities for key response partners are included to highlight points of coordination between agencies and institutions during a pandemic. It is recommended that healthcare facilities and healthcare professionals, essential service providers, local government agencies, schools, and businesses incorporate pandemic influenza response activities into their emergency response plans.
- B. The Macomb County Health Department Plan does not address specific measures that will be undertaken to contain an outbreak of avian influenza virus in birds or other animal populations. The Michigan Department of Agriculture and the Michigan Department of Natural Resources are primarily responsible for the surveillance and control of influenza outbreaks in domestic and wild animals. However, control measures in animals will interface with public health actions to prevent transmission to humans. The Macomb County Health Department will support the activities of the Michigan Department of Agriculture and the Michigan Department of Natural Resources as necessary (see Appendix D).

V. LEGAL AUTHORITIES

A. Counties and Municipalities

Each county or municipality has an appointed Emergency Management Coordinator pursuant to Section 9, Michigan Emergency Management Act (Public Act 390 of 1976, as amended). The chief executive official of a county or municipality or the official designated by charter may do one or more of the following in the event of a disaster or emergency:

- 1. Declare a local state of emergency or disaster if circumstances within the county or municipality indicate that the occurrence or threat of widespread or severe damage, injury, or loss of life or property from a natural or human-made cause exists and under a declaration of local state of emergency, issue directives as to travel restrictions on county or local roads.
- 2. Appropriate and expend funds, make contracts, and obtain and distribute equipment, materials, and supplies for disaster purposes.
- 3. Provide for the health and safety of persons and property, including emergency assistance to victims of the disaster.
- 4. Direct and coordinate local multi-agency response to emergencies within the county or municipality.

5. Appoint, employ, remove, or provide, with or without compensation, rescue teams, auxiliary fire and police personnel, and other disaster workers.
6. If a state of disaster or emergency is declared by the Governor, assign and make available for duty the employees, property or equipment of the county or municipality relating to fire fighting; engineering; rescue; health, medical and related services; police; transportation; construction; and similar items or service for disaster relief purposes within or without the physical limits of the county or municipality as ordered by the Governor or director (i.e., Director, Emergency Management Division, Michigan Department of State Police).

B. Local Health Officers

1. The Public Health Code provides broad authorities to local health officers to take action to control epidemics and prevent the spread of infectious diseases within a community. Local Health Officers can limit public gatherings, prohibit the presence of individuals in specific locations, and require the detention and/or treatment of individuals with hazardous communicable diseases. These actions may require the support of the emergency management and law enforcement communities.
2. Local health officers may issue a “Warning Notice” to an individual they believe is a carrier of a hazardous communicable disease and is a health threat to others. The notice shall require the individual to cooperate with the local health department in efforts to prevent or control transmission of serious communicable diseases or infections. The Public Health Code outlines what the “warning notice” shall contain and how it shall be given to the individual.
3. The authorities cited above are similar to those given to the Director of the Michigan Department of Community Health.

VI. PHASES OF AN INFLUENZA PANDEMIC

A. World Health Organization Phases

1. The World Health Organization has developed a global influenza preparedness plan that includes a classification system for guiding planning and response activities for an influenza pandemic. This classification system is comprised of six phases of increasing public health risk associated with the emergence and spread of a new influenza virus subtype that may lead to a pandemic. The Director General of the World Health Organization formally declares the

current global pandemic phase and adjusts the phase level to correspond with pandemic conditions around the world.

2. In accordance with the United States Department of Health and Human Services Pandemic Influenza Plan, the Department of Health and Human Services will determine and communicate the pandemic phase level for the United States based on the global pandemic phase and the extent of disease spread throughout the country.

B. Michigan Department of Community Health Phases

The Michigan Department of Community Health Pandemic Influenza Plan combines the six World Health Organization phases into three major phases.

1. Pre-Pandemic Phase

The pre-pandemic phase begins when a novel virus, somewhere in the world, has been detected in humans and the human population is not immune. The novel strain has been found in a small number of people or demonstrates sustained person-to-person transmission causing multiple cases in the same geographic area. This phase may last from days to years and corresponds to World Health Organization phases 1 through 5.

2. Pandemic Phase

The pandemic phase begins when the novel virus causes unusually high rates of morbidity and mortality, multiple continents are affected, and the World Health Organization and United States Department of Health and Human Services declare an influenza pandemic. This phase may last months to over a year and corresponds to World Health Organization phase 6.

3. Post-Pandemic Phase

The post-pandemic phase begins when the number of cases of influenza returns to normal and the World Health Organization and United States Department of Health and Human Services declare that the pandemic is over.

INFLUENZA PANDEMIC PHASES

World Health Organization	Michigan Department of Community Health
<p>Phase 1 – No new influenza virus subtypes detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered low.</p> <p>Phase 2 – No new influenza virus subtypes detected in humans. However, a circulating animal influenza virus subtype poses substantial risk of human disease.</p> <p>Phase 3 – Human infections are occurring with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.</p> <p>Phase 4 – Small clusters of human infection with limited human-to-human transmission but spread is highly localized suggesting that the virus is not well adapted to humans.</p> <p>Phase 5 – Larger clusters of human infection but human-to-human spread is localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).</p>	Pre-Pandemic Phase
<p>Phase 6 – Pandemic is declared. Increased and sustained transmission in the general population.</p>	Pandemic Phase
	Post-Pandemic Phase

VII. ROLES AND RESPONSIBILITIES

A. Federal Government

1. Facilitate vaccine research and development and purchase pandemic influenza vaccine and distribute it to the states.
2. Coordinate national and international surveillance.
3. Develop a suitable liability program for vaccine manufacturers and persons administering vaccine.
4. Develop a national data base for vaccine availability.
5. Develop a vaccine adverse event surveillance system.
6. Deploy the Strategic National Stockpile if requested by the State of Michigan.

B. Michigan Department of Community Health

1. Coordinate statewide pandemic planning and preparedness efforts.
2. Coordinate statewide surveillance activities.
3. Operate a public health reference laboratory for novel influenza virus testing.
4. Coordinate the submission of pandemic epidemiological data to the Centers for Disease Control and Prevention and the dissemination of statewide data and updates to local health departments.
5. Coordinate the development and implementation of disease containment strategies across the State.
6. Request Federal assistance to support response activities. This will include a request for supplies from the Strategic National Stockpile such as antiviral medications and vaccine, when local and state resources are exceeded.
7. Establish state stockpiles of antiviral medications if funding is available.
8. Educate and inform the public about the course of the pandemic and the use of appropriate preventive measures.

C. Macomb County Health Department

1. Coordinate countywide planning activities for the response to an influenza pandemic.
2. Direct the County's response to an influenza pandemic along with the Macomb County Emergency Management Department activating the County's Emergency Operations Center if necessary.
3. Educate the public, health care system partners, business community, schools, other government agencies and elected officials about influenza pandemics and response planning.
4. Provide ongoing technical support to healthcare system partners by providing surveillance case definitions, recommendations for case management, infection control guidelines, and recommendations and protocols for laboratory testing as necessary.
5. Support planning activities to address medical surge capacity with healthcare system partners by participating in the Region 2 North emergency preparedness planning process.
6. Support the development and maintenance of State antiviral medication stockpiles if necessary.
7. Establish recommendations for the use of limited supplies of influenza vaccine and antiviral medications consistent with national guidelines.
8. Distribute vaccine and antiviral medications to healthcare system partners and conduct mass vaccination clinics.
9. Provide effective communications to the public, the media, elected officials, healthcare system partners, businesses, schools and other government agencies during a pandemic. This will involve the use of mass fax capabilities and may involve the establishment of a call center.
10. Issue public health orders regarding isolation, quarantine, and social distancing strategies as necessary (e.g., the closing of schools or the cancellation of public events).
11. Conduct communicable disease surveillance and case investigation activities.

12. Conduct training and exercises for Department staff to evaluate and enhance the Department's readiness to respond to an influenza pandemic.
13. Develop a mass fatality response plan and coordinate planning and response activities with healthcare system partners and county funeral directors.
14. Participate in surveillance activities for animal influenza viruses through liaison with the Michigan Department of Agriculture and the Michigan Department of Natural Resources as necessary.

D. Hospitals and Healthcare System Partners

1. Develop pandemic influenza response plans consistent with the healthcare planning guidance contained in the United States Department of Health and Human Services Pandemic Influenza Plan.
2. Participate in pandemic response planning activities through the Region 2 North emergency preparedness planning process.

VIII. COMMAND AND CONTROL

- A. The Macomb County Health Department will be the lead government agency in coordinating the County's response to an influenza pandemic and will respond as outlined in this plan and the Emergency Action Guidelines for Macomb County.
- B. The Macomb County Health Department will coordinate response activities with the Michigan Department of Community Health and neighboring local health jurisdictions.
- C. The Macomb County Health Department will operate under the National Incident Management System during the response to an influenza pandemic.
- D. The Macomb County Health Department and the Macomb County Department of Emergency Management will activate the Emergency Operations Center to coordinate the county-wide public health and healthcare system response once a pandemic is declared. Municipalities in the county may also activate their emergency operations centers during a pandemic.

- E. The Macomb County Health Department will ask the Michigan Department of Community Health to request Strategic National Stockpile assets (e.g., vaccine, antiviral medication, medical supplies) to support the public health and healthcare system responses to the pandemic.
- F. The Macomb County Health Department will provide regular briefings to the Macomb County Board of Commissioners, other elected officials, and response partners. Briefings will address the nature of the disease, its communicability and virulence, availability of vaccine and antiviral medications, actions that are being taken to minimize the impact of the pandemic, actions that response partners should implement to protect critical functions, and health information being shared with the public and healthcare providers.

IX. PREVENTION AND CONTAINMENT

A. General Principles

1. The goal of community level containment measures is to slow the spread of pandemic influenza as much as possible and to provide additional time for the development, manufacture, distribution and administration of influenza vaccine and antiviral medications. Strategies to achieve this goal must take into consideration the modes of transmission of influenza, the short incubation period, the non-specific clinical presentation, the likelihood of asymptomatic transmission and past experience with the use of containment measures during pandemic influenza.
2. There are two key strategies for preventing transmission, each with varying degrees of efficacy. The first involves decreasing the probability that contact will result in infection, and may include activities such as providing education to the public about practicing cough etiquette and proper hand and respiratory hygiene. The second involves decreasing contact between infected and uninfected individuals, and may include activities such as the isolation of cases, the quarantine of contacts, the issuance of travel advisories, and the cancellation of public gatherings.
3. During all phases of a pandemic, persons ill with influenza will be directed to remain in isolation in healthcare settings or at home, to the extent possible.
4. Quarantine measures may be beneficial during the earliest phases of a pandemic, and in response to an influenza virus that has not achieved the ability to spread easily from person-to-person.

However, once person-to-person transmission has been established quarantine measures will be of limited value in preventing further spread of the disease and will not be recommended.

B. Pre-Pandemic Phases

1. Containment Measures if Cases are First Detected Outside the United States

- The Macomb County Health Department will work collaboratively with the Michigan Department of Community Health on the management of travelers requiring isolation, quarantine or follow-up.
- The Macomb County Health Department will recommend isolation of recent travelers to affected regions if they have influenza-like illness. If influenza is suspected or confirmed, the Macomb County Health Department will recommend isolation at home or in a hospital until isolate subtyping is accomplished. Isolation will be recommended for 14 days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be a novel influenza A virus.
- The Macomb County Health Department may recommend quarantine for the contacts of cases.
- The Macomb County Health Department may issue an advisory recommending the limitation of travel to the affected region and the screening of travelers arriving from the affected region for illness compatible with influenza.
- The Macomb County Health Department will increase education about the importance of hand hygiene, cough etiquette, and respiratory hygiene.

2. Containment Measures if Cases are First Detected in the United States but outside of Macomb County

- The Macomb County Health Department will work collaboratively with the Michigan Department of Community Health on the management of travelers requiring isolation, quarantine or follow-up.
- The Macomb County Health Department will recommend that persons who are positive for influenza A be placed in isolation at home or in a hospital until isolate subtyping can be accomplished. Isolation will be recommended for 14 days, until

viral shedding is no longer detected or until the isolate is laboratory confirmed not to be a novel influenza A virus.

- The Macomb County Health Department may recommend quarantine for the contacts of cases.
- The Macomb County Health Department will increase public education regarding the importance of hand hygiene, cough etiquette, and respiratory hygiene.

3. Containment Measures if Cases are First Detected in Macomb County

- The Macomb County Health Department will work collaboratively with the Michigan Department of Community Health regarding isolation, quarantine, and follow-up cases.
- The Macomb County Health Department will recommend that persons who have influenza-like illness be placed in isolation at home or in a hospital until isolate subtyping can be accomplished. Isolation will be recommended for 14 days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be a novel influenza A virus.
- The Macomb County Health Department may recommend quarantine for the contacts of cases.
- If an animal source is identified and there is ongoing transmission within the animal population, the Macomb County Health Department will work with the Michigan Department of Agriculture and the Michigan Department of Natural Resources and may recommend that persons in contact with potentially infected animals wear appropriate personal protective equipment and receive antiviral medication.
- The Macomb County Health Department may recommend the cancellation of large gatherings and the closure of schools depending on the level of person-to-person transmission.
- The Macomb County Health Department will increase public education regarding the importance of hand hygiene, cough etiquette, and respiratory hygiene.

C. Pandemic Phase

1. The Macomb County Health Department will recommend that all persons who are ill and their contacts remain in isolation and quarantine at home to the extent possible.
2. The Health Officer/Medical Director will review epidemiological data during each phase of the pandemic and consider the use of social-distancing strategies to respond to the pandemic. The Macomb County Health Department may:
 - Encourage government agencies and the private sector to implement emergency staffing plans to maintain critical business functions while maximizing the use of telecommuting, flex schedules, and alternate work site locations.
 - Encourage the public to use public transportation only for essential travel.
 - Advise Macomb County residents to defer non-essential travel to other areas of the Country and the world affected by pandemic influenza outbreaks.
 - Suspend public events where large numbers of people congregate including sporting events and concerts.
 - Close churches, theaters, community centers, and other places where large groups gather.
 - Close public and private schools, preschools, colleges and universities.

X. SURVEILLANCE

A. Pre-Pandemic Phases

1. World Health Organization Phase 3 (Pandemic Alert)
 - The Communicable Disease Program will monitor bulletins from the Centers for Disease Control and Prevention and the Michigan Department of Community Health regarding virologic, epidemiologic, and clinical findings associated with viral subtypes isolated within and outside the United States.
 - The Communicable Disease Program will communicate with surveillance partners and review the major elements of

enhanced surveillance activities that may be implemented during later pandemic phases.

- The Communicable Disease Program will conduct seasonal influenza surveillance activities.
2. World Health Organization Phase 4 (Evidence of Increased Human-to-Human Transmission)
 - The Communicable Disease Program under the direction of the Medical Director will enhance existing surveillance efforts including year round surveillance for influenza-like illness and detailed case and contact investigation.
 - The Communicable Disease Program will coordinate surveillance activities with the Michigan Department of Community Health and health departments in adjacent jurisdictions as necessary.
 - Syndromic surveillance data provided by the Michigan Department of Community Health will be reviewed on a regular basis.
 - The Communicable Disease Program will work with clinicians, hospitals and healthcare providers to enhance case detection, according to Centers for Disease Control and Prevention screening criteria, among persons who have recently traveled to outbreak areas and present with illnesses meeting the clinical criteria for influenza.
 - The Communicable Disease Program will distribute specimen collection kits for viral testing to hospitals and will facilitate influenza testing of case specimens as directed by the Michigan Department of Community Health.
 - The Communicable Disease Program staff will review the prevention and containment measures outlined in Section IX.
 3. World Health Organization Phase 5 (Evidence of Significant Human-to-Human Transmission)
 - The Communicable Disease Program will continue surveillance activities outlined for World Health Organization Phase 4.

B. Pandemic Phase

1. Influenza Surveillance Systems will become overwhelmed during this phase of a pandemic. Emphasis will be shifted from the

detection of individual cases to the monitoring of demographic characteristics of cases.

2. The Communicable Disease Program will monitor selected morbidity and mortality statistics as directed by the Medical Director to establish age-specific and geographic-specific rates. This information may be helpful in establishing priority groups for the use of available vaccine and antiviral medications.
3. The Communicable Disease Program will comply with Centers for Disease Control and Prevention and Michigan Department of Community Health guidelines to facilitate the collection of viral specimens for the detection of antigenic drift variants that could limit the efficacy of available vaccine or antiviral medications.

XI. ANTIVIRAL MEDICATIONS

Antiviral medications may play an important role in the control of pandemic influenza particularly before a vaccine becomes widely available. Antiviral medications can be used for prophylaxis, post-exposure prophylaxis, and treatment. Because of limited supply the use of antiviral medications for prophylaxis may not be feasible except in very limited circumstances. In addition, antiviral medications will be best used at the point of care (e.g., hospitals). Therefore, plans for the use of antiviral medications will focus on the distribution of medication to end providers and not on the dispensing to individuals at large clinic sites.

A. Pre-Pandemic Phases

1. World Health Organization Phase 3 (Pandemic Alert)
 - The Macomb County Health Department will finalize the Strategic National Stockpile Plan that will be used to store, transport, and distribute antiviral medications from the Strategic National Stockpile and State of Michigan Stockpiles (if created) to end providers (e.g., hospitals, pharmacies, and large healthcare providers). Planning activities will involve county hospitals and other response partners through the Region 2 North emergency preparedness planning process.
 - The Medical Director will identify priority groups for the use of antiviral medications based on current national guidelines (see Appendix F).

2. World Health Organization Phase 4 (Evidence of Increased Human-to-Human Transmission)

The Macomb County Health Department will prepare to implement the Macomb County Strategic National Stockpile Plan for the storage and distribution of antiviral medications to end providers (e.g., hospitals, pharmacies, and large healthcare providers). Preparation will include meetings with county hospitals and other appropriate response partners.

3. World Health Organization Phase 5 (Evidence of Significant Human-to-Human Transmission)

- The Macomb County Health Department will continue to prepare to implement the Macomb County Strategic National Stockpile Plan for the distribution of antiviral medications to end providers. The Plan will be revised as necessary based on any new information from the Centers for Disease Control and Prevention and the Michigan Department of Community Health.
- The Medical Director will update guidelines (as necessary) for the use of antiviral medications. The Macomb County Health Department will obtain signed agreements (which outline the criteria for use of antiviral medications) with hospitals and other healthcare providers that will receive antiviral medications from the Department.

B. Pandemic Phase

1. The Macomb County Health Department will ask the Michigan Department of Community Health to request antiviral medications from the Strategic National Stockpile and will ask that Macomb County's allocation of antiviral medications stored in State Stockpiles (if created) be released for distribution.
2. The Macomb County Health Department will fully activate antiviral medication distribution plans as outlined in the Macomb County Strategic National Stockpile Plan.
3. The Macomb County Health Department will distribute antiviral medications, as supplies allow, to end providers (e.g., hospitals, large outpatient clinics, pharmacies).
4. The Medical Director will revise (as necessary) and distribute guidelines to medical providers regarding priority groups for the use of antiviral medications.

XII. VACCINATION

Vaccination is the most effective preventive strategy against outbreaks of influenza including pandemics. However, because current manufacturing procedures require 6-8 months before large amounts of vaccine are available for distribution, there will likely be a large gap between identification of a pandemic virus strain and the availability of vaccine. The administration of vaccine, at least initially during a pandemic, will need to be prioritized.

A. Pre-Pandemic Phases

1. World Health Organization Phase 3 (Pandemic Alert)

The Macomb County Health Department will develop a plan to administer vaccine to priority groups and eventually the entire county population using mass vaccination clinics. The plan will include:

- Potential sites for vaccination clinics (e.g., schools, large community buildings) including letters of agreement for the use of these sites
- Staffing needs and duties including the use of volunteers, the development of job action guidelines and the recruitment of volunteers to be registered in the Michigan Volunteer Registry
- Protocols for vaccine storage and potential storage locations
- Supplies needed for clinic operations
- Model clinic flow designs
- Security requirements

2. World Health Organization Phase 4 (Evidence of Increased Human-to-Human Transmission)

During this phase vaccine would not yet be available and may not be for several months.

- The Macomb County Health Department will monitor reports from the Centers for Disease Control and Prevention, the Food and Drug Administration, and the Michigan Department of Community Health regarding the development and availability of vaccine.
- The Macomb County Health Department will prepare to implement the Macomb County Strategic National Stockpile

Plan for the storage and distribution of vaccine to end providers (e.g., hospitals, large healthcare providers). Preparation will include meetings with county hospitals and other appropriate response partners.

- The Macomb County Health Department will ensure that human resources (volunteer registry), equipment, letters of agreement for the use of sites for vaccination clinics, and mass vaccination clinic plans are in place.
- The Medical Director will develop recommendations for use of vaccine based on national guidelines.

3. World Health Organization Phase 5 (Evidence of Significant Human-to-Human Transmission)

- The Macomb County Health Department will continue preparation activities as outlined for World Health Organization Phase 4.
- If a vaccine delivery date is available, the Macomb County Health Department will obtain signed agreements (which will outline the criteria for the administration of vaccine) with hospitals and other healthcare providers that will receive and administer vaccine from the Department.
- The Macomb County Health Department will contact the Macomb County Sheriff's Department to request security for mass vaccination clinics.
- If vaccine is available, the Macomb County Health Department will activate mass vaccination clinic plans and begin vaccine administration as outlined in Section XII.B.
- The Medical Director will revise guidelines for the use of vaccine as needed based on national guidelines.

B. Pandemic Phase

Presumably vaccine will be available for a sizeable portion of the population of Macomb County at some point during this phase.

- The Macomb County Health Department will distribute vaccine to hospitals, large private providers, and Department mass vaccination clinic sites as outlined in the Macomb County Strategic National Stockpile Plan.

- The Macomb County Health Department will activate mass vaccination clinic plans and administer vaccine to priority groups and the entire population of Macomb County if sufficient vaccine is available.
- The Medical Director will update (as necessary) recommendations and priority groups for vaccination based on national guidelines. Standing orders will be finalized and made available to private providers.
- The Communicable Disease Program will coordinate with the Michigan Department of Community Health to determine how adverse reactions to the vaccine will be tracked and reported and will review surveillance data that may indicate changes in the risk groups for the prioritization of vaccine administration.

XIII. COMMUNICATIONS AND PUBLIC EDUCATION

The Macomb County Health Department will serve as the lead government agency in Macomb County for risk communications and public education regarding pandemic influenza. Communications with the public, healthcare providers, hospitals, schools and other government agencies will be a critical component of a response to a pandemic. Public education throughout all phases of a pandemic will involve any or all of the following:

- The dissemination of printed and web-based information.
- Active outreach to traditionally under-served populations, through cooperation with community based organizations.
- The frequent use of radio, television and print media.
- Coordination with other healthcare providers and caregivers to ensure consistent messaging.
- The establishment of a public information call center.

A. Pre-Pandemic Phases

The Macomb County Health Department will educate the public, elected officials, schools, businesses, other government agencies, and healthcare providers about influenza pandemics and steps that should be taken to prepare for a pandemic. Information may be disseminated using printed materials, website postings, media interviews, conferences, and presentations.

1. World Health Organization Phase 3 (Pandemic Alert)

- The Macomb County Health Department will test local communications systems such as 800 mgHz radios and mass fax.
 - The Macomb County Health Department will develop mass release templates and materials for responding to questions from the media.
2. World Health Organization Phase 4 (Evidence of Increased Human-to-Human Transmission)

The Macomb County Health Department will:

- Notify hospitals, healthcare providers, emergency responders, schools, and funeral directors, of the change in pandemic phase.
 - Identify the Medical Director and the Health Officer as the spokespersons for communications with the media.
 - Prepare fact sheets detailing the responses to questions from the media.
 - Issue guidelines on influenza precautions for workplaces, hospitals, schools, correctional facilities, public safety agencies, emergency responders, and individuals and families.
3. World Health Organization Phase 5 (Evidence of Significant Human-to-Human Transmission)

The Macomb County Health Department will:

- Notify hospitals, healthcare providers, emergency responders, schools, and funeral directors of a change in pandemic status.
- Update fact sheets regarding pandemic influenza.
- Implement a public health education campaign with emphasis on hand washing, staying at home if you are sick with a respiratory illness, vaccination clinic locations and priority groups for vaccination, and the signs and symptoms of influenza.
- Contact the Macomb County Community Mental Health Services Department to respond to needs for counseling and mental health services.

B. Pandemic Phase

1. The Macomb County Health Department will notify hospitals, healthcare providers, emergency responders, schools, and funeral directors about the change in pandemic phase.
2. The Macomb County Health Department and the Macomb County Public Information Officer will evaluate the need to establish a Joint Information Center to respond to media and public inquiries about the pandemic.
3. The Macomb County Health Department and the Macomb County Public Information Officer will develop public information messages about the response to the pandemic, infection control measures, information about Neighborhood Emergency Help Centers and Acute Care Centers (if the Modular Emergency Medical System is activated), the location and times of vaccination clinics, priority groups for vaccination and the use of antiviral medications, and containment strategies that may be implemented.
4. As the pandemic expands, the Macomb County Health Department and the Macomb County Public Information Officer will provide daily updates about the pandemic and will organize regular media briefings.
5. The Communicable Disease Program will initiate regular communication with hospital emergency rooms, infection control practitioners, and healthcare providers as necessary.

XIV. HEALTHCARE SYSTEM RESPONSE

An influenza pandemic will significantly increase the demand for healthcare services at a time when the availability of healthcare workers will be reduced due to illness. This imbalance between supply and demand is likely to overwhelm current healthcare system capacity and necessitate implementation of alternate strategies to manage the demand on healthcare system resources.

A. Pre-Pandemic Phases

1. Hospitals and healthcare system partners should develop pandemic influenza response plans that will address medical surge capacity, triage, infection control within the facilities, and staffing issues. These plans should be consistent with guidelines in the

United States Department of Health and Human Services
Pandemic Influenza Plan.

2. The Macomb County Health Department will continue to participate in the Region 2 North emergency preparedness planning process to develop a Modular Emergency Medical Systems plan for the Region 2 North Emergency Preparedness Region (Oakland, Macomb, and St. Clair Counties). The Modular Emergency Medical System will establish Alternative Care Centers and Neighborhood Emergency Help Centers. Alternative Care Centers would add to the existing hospital bed capacity in Macomb County and the Region and would provide limited care to patients with influenza. Neighborhood Emergency Help Centers would serve as triage facilities to relieve the burden on hospital emergency departments. Neighborhood Emergency Help Centers may also serve as dispensing sites for antiviral medications and/or antibiotics and vaccination sites.
3. The Macomb County Health Department will provide regular information to hospitals and healthcare providers regarding the status of a novel virus and the potential for a pandemic.

B. Pandemic Phase

1. The County Emergency Operations Center will be opened by the Macomb County Department of Emergency Management and the Macomb County Health Department.
2. The Macomb County Health Department, the Macomb County Emergency Management Department, and County hospitals will evaluate the need for and the feasibility of implementing the following strategies:
 - Canceling elective admissions and elective surgeries.
 - Implementing protocols to expand internal hospital bed capacity.
 - Implementing early discharge protocols for patients not requiring inpatient care.
 - Implementing protocols for enhanced infection control in all medical facilities.
 - Monitoring and reporting of hospital-acquired influenza infections.
 - Activating the Modular Emergency Medical System.

3. Hospitals will identify and prioritize staff to receive antiviral medications and influenza vaccine according to Macomb County Health Department guidelines.
4. The Macomb County Health Department will coordinate with the Macomb County Emergency Management Department to acquire additional medical supplies and equipment in support of medical facilities throughout the county. This will include a request for Strategic National Stockpile assets.
5. The Macomb County Health Department and the Macomb County Department of Emergency Management and hospital representatives in the Emergency Operation Center will monitor the following:
 - Number of available Intensive Care Units and medical beds (adult and pediatric)
 - Number of available emergency department beds (monitored and non-monitored)
 - Number of patients and/or waiting times in emergency departments
 - Number of patients waiting for inpatient beds (in emergency departments and clinics)
 - Number of hospitals on emergency department divert status
 - Hospital and Medical Examiner morgue capacity
 - Shortages of medical supplies or equipment
 - Staff absenteeism at hospitals, clinics and morgues

XV. COMMUNITY PLANNING AND RESPONSE

A. Schools (K-12)

Schools should review the Macomb County Health Department School Planning and Response Guidelines for Pandemic Influenza (see Appendix L) when developing pandemic influenza response plans. The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have also developed a checklist to assist schools in developing and/or improving plans to prepare for an influenza pandemic. This checklist is available at www.pandemicflu.gov.

B. Preschools and Child Care Facilities

Interruptions in child care services during an influenza pandemic may cause conflicts for working parents that could result in high absenteeism in workplaces. Some of that absenteeism could be expected to affect personnel and workplaces that are critical to the emergency response system. The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to help programs prepare for the effects of an influenza pandemic. This checklist is available at www.pandemicflu.gov.

C. Colleges and Universities

The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to assist colleges and universities to develop and/or improve plans to respond to an influenza pandemic. This checklist is available at www.pandemicflu.gov.

D. Businesses

In the event of pandemic influenza, businesses will play a key role in protecting employees' health and safety as well as limiting the negative impact to the economy and society. Companies that provide critical infrastructure services, such as power and telecommunications, also have a special responsibility to plan for continued operation in a crisis.

The United States Department of Health and Human Services and the Center of Disease Control and Prevention have developed guidelines, including a checklist, to assist businesses in planning for a pandemic outbreak as well as for other comparable catastrophes. This information is available at www.pandemicflu.gov.

E. Medical Offices and Clinics

Planning for pandemic influenza is critical for ensuring a sustainable healthcare response. The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to help medical offices and ambulatory clinics assess and improve their preparedness for responding to pandemic influenza. This checklist is modeled after a pandemic preparedness checklist for hospitals and should be used in conjunction with guidance on healthcare preparedness planning in Supplement 3 of the United States Department of Health and Human Services Pandemic Influenza Plan. Many of the issues included in the checklist are also relevant to other

outpatient settings that provide episodic and chronic healthcare services (e.g., dental, podiatric, and chiropractic offices, ambulatory surgery centers, hemodialysis centers). This checklist is available at www.pandemicflu.gov.

F. Long-Term Care and other Residential Facilities

The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to help long-term care and other residential facilities assess and improve their preparedness for responding to pandemic influenza. Based on differences among facilities (e.g., patient/resident characteristics, facility size, scope of services, hospital affiliation), each facility will need to adapt this checklist to meet its unique needs and circumstances. This checklist is available at www.pandemicflu.gov.

G. Emergency Medical Services

The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to help emergency medical services and non-emergent (medical) transport organizations assess and improve their preparedness for responding to pandemic influenza. Emergency medical service organizations will be involved in the transport of acutely ill patients with known or suspected pandemic influenza to emergency departments. Some of these patients might require mechanical ventilation for life support and/or other lifesaving interventions. Non-emergent (medical) transport organizations will be called upon to transport recovering pandemic influenza patients to their home, residential care facility, or possibly to alternate care facilities established in Macomb County. This checklist can be found at www.pandemicflu.gov.

H. Home Health Care Services

The United States Department of Health and Human Services and the Centers for Disease Control and Prevention have developed a checklist to help public and private organizations that provide home health care services assess and improve their preparedness for responding to pandemic influenza. Home health agencies will likely be called upon to provide care for patients who do not require hospitalization for pandemic influenza, or for whom hospitalization is not an option because hospitals have reached their capacity to admit patients. These agencies may become overburdened very quickly and shortages of personnel and supplies for providing home health care may occur. This checklist is available at www.pandemicflu.gov.

I. Individuals and Families

It is important for individuals and families to think about the challenges they might have to face in the event of an influenza pandemic. The United States Department of Health and Human Services and the Centers for Disease Control have developed a checklist and other information to help individuals and families plan for the effects of an influenza pandemic. This information covers issues such as social disruption, closure of schools, disruption of transportation services, and the need to stock a supply of water and nonperishable food and other supplies such as prescription medications in the event of a public health emergency. This checklist and planning information is available at www.pandemicflu.gov.

J. Law Enforcement and other Government Agencies

Law enforcement agencies in Macomb County and other government agencies will likely play a significant role in the response to an influenza pandemic. Law enforcement agencies may be asked to enforce public health disease control and containment orders and may be asked to provide security at medication and medical supply storage locations or at vaccination clinic sites. Law enforcement agencies and other government agencies may find the Macomb County Health Department planning checklists helpful in developing plans to respond to an influenza pandemic (see Appendix M and Appendix N).

K. Faith-Based and Community Organizations

The United States Department of Health and Human Services and the Center for Disease Control have developed a checklist to assist community organizations with their pandemic planning. This checklist is available at www.pandemicflu.gov.

XVI. MAINTENANCE OF ESSENTIAL PUBLIC HEALTH SERVICES

During an influenza pandemic the Macomb County Health Department may need to suspend routine Department operations to provide staff for response activities.

A. Pre-Pandemic Phases

1. All Macomb County Health Department Division Directors and Program Managers will identify mission critical functions that must remain operational during a pandemic, identify functions that can be suspended thereby freeing up staff persons for reassignment, and identify staff that can be cross-trained to perform emergency response functions.

2. The Medical Examiner's Office will coordinate mass fatality planning efforts with hospitals and funeral homes.

B. Pandemic Phase

1. The Health Officer will determine the need to suspend routine Department operations and which operations will be suspended in order to reassign staff to critical duties.
2. The Medical Examiner's Office may activate a mass fatalities plan. Activation of the plan will be coordinated with hospitals and funeral homes throughout the County. Based on the number of actual or anticipated fatalities during a pandemic, the Medical Examiner's Office may implement emergency protocols regarding:
 - Identification and documentation of victims
 - Activation and management of temporary temperature controlled holding facilities
 - Release of remains to family members
 - Temporary internment of mass fatalities
 - Cremation and burial of mass fatalities

XVII. SECOND WAVE

Typically in a pandemic, the number of new cases of influenza peaks and then declines, giving the impression that the pandemic is over. Then within a few months, influenza incidence once again increases. It is important to remain vigilant for a return of pandemic activity. This is especially difficult given that all personnel and supplies involved in responding to a pandemic may be exhausted. The perceived "end of the pandemic" may be viewed as an opportunity to relax and recover. However, all essential functions should be restored to return to pandemic imminent status.

- A. The Macomb County Health Department will continue to provide reports of backlogged information to the Michigan Department of Community Health.
- B. The Communicable Disease Program will advise hospitals and other reporting sources of the need for the continued reporting of influenza cases and the likelihood of a second wave.
- C. The Macomb County Health Department will continue to administer vaccine if supplies are available to increase local immunity in the event of a second wave.

- D. The Communicable Disease Program will continue to facilitate the collection of viral specimens as directed by the Michigan Department of Community Health to monitor for possible antigenic drift of the influenza virus.

XVIII. POST-PANDEMIC PHASE

- A. Recovery from an influenza pandemic will begin when it is determined that adequate supplies, resources and response system capacity exist to manage ongoing activities without continued assistance from pandemic response systems.
- B. In consultation with County healthcare providers and the Macomb County Board of Commissioners, the Macomb County Department of Emergency Management and the Macomb County Health Department will recommend specific actions to be taken to return the healthcare system and government functions to pre-event status.
- C. The Macomb County Health Department will assess the impact of the pandemic on the community's health as measured by morbidity and mortality and report findings to all response partners.
- D. The Macomb County Health Department and the Macomb County Department of Emergency Management will support partners in Macomb County government and the healthcare and business communities in assessing the economic impact of the pandemic.
- E. The Macomb County Health Department Emergency Preparedness Coordinator will conduct an after-action evaluation of the pandemic response. The evaluation will include recommendations for changes to the Macomb County Health Department Pandemic Influenza Response Plan and Mass Vaccination Plan.

XIX. REFERENCES

1. U.S. Department of Health and Human Services (HHS) Pandemic Influenza Plan (November 2005). <http://www.pandemicflu.gov>
2. Michigan Department of Community Health Pandemic Influenza Plan (March 2006). <http://www.michigan.gov/flu>

**Macomb County Health Department Responsibilities During an Influenza Pandemic
All Phases**

1. Provide community education about pandemic influenza and the Macomb County Health Department Response Plan.
2. Coordinate the county's emergency public health response to an influenza pandemic along with the Macomb County Department of Emergency Management.
3. Serve as the lead agency in Macomb County for risk communications and public education.
4. Provide effective communications to the public, the media, elected officials, health care providers, businesses and community leaders throughout an influenza pandemic.
5. Conduct county-wide surveillance to track the spread of pandemic influenza and its impact on the community. Through liaison with the Michigan Departments of Agriculture and Natural Resources, facilitate influenza surveillance in animals in Macomb County and monitor surveillance data.
6. Provide guidance to health care system partners on clinical management, infection control, and disease surveillance issues.
7. Coordinate planning for the implementation of disease containment strategies.
8. Communicate and coordinate with health system partners through the Region 2 North emergency preparedness planning process.
9. Develop and implement protocols for prioritizing the use of limited supplies of influenza vaccine and antiviral medications.
10. Initiate and direct mass vaccination efforts.

Appendix A

Division/Program	Specific Responsibilities of Macomb County Health Department Divisions and Programs
All Divisions and Programs	<ol style="list-style-type: none"> 1. Identify mission critical functions that must be maintained during an influenza pandemic. 2. Identify staff who can be cross trained to perform emergency response functions. 3. Identify functions that could be temporarily discontinued or performed via telecommuting for several weeks. 4. Be prepared to mobilize all necessary staff to support the Macomb County Health Department pandemic influenza response, as directed by the Health Officer/Medical Director.
Health Officer/ Medical Director	<ol style="list-style-type: none"> 1. Communicate and coordinate directly with the Macomb County Board of Commissioners and other elected officials in the county. 2. Coordinate directly with health care system partners and make decisions regarding strategies for reallocating resources and restructuring countywide health system operations in response to a pandemic. 3. Authorize and communicate public health directives regarding social distancing strategies and other protective actions to elected leaders, the business community, schools, health care system partners and other community partners. 4. Assign responsibilities to Macomb County Health Department Divisions and Programs for planning and responding to the pandemic. 5. Ensure business continuity of critical Macomb County Health Department functions during all phases of the pandemic. 6. Direct the Macomb County Health Department's response during a pandemic. 7. Assess the need to reprioritize Department functions and direct the mobilization of staff to meet emerging needs of the pandemic.

Appendix A

Family Health Services Division	Lead and coordinate all mass vaccination clinic activities and antiviral medication distribution activities.
Communicable Disease Program	<ol style="list-style-type: none"> 1. Carry out countywide surveillance, epidemiological investigation and disease control activities. 2. Provide information and technical support on surveillance, epidemiology and clinical issues, including case identification, diagnosis, management, and infection control to health care providers and facilities. 3. Communicate decisions regarding individual and group isolation and quarantine and social distancing strategies. 4. Communicate guidelines for prioritizing supplies of antiviral medicines and vaccines in Macomb County.
Public Information Officer (PIO)	<ol style="list-style-type: none"> 1. Provide accurate, timely information to the public regarding preparations for a pandemic, the impacts of the outbreak and local response actions. 2. Educate the public on how they can protect themselves from becoming infected and infecting others. 3. Activate and direct the management of public information call centers focused on providing health information to the public.
Health Education Program	<p>Coordinate countrywide pandemic education and outreach efforts with:</p> <ul style="list-style-type: none"> • Schools • Businesses • Community based organizations • Other government agencies and municipalities • Hospitals and other healthcare providers

Appendix A

Emergency Preparedness Coordinator	<ol style="list-style-type: none"> 1. Coordinate pandemic planning and preparedness efforts for the Macomb County Health Department in conjunction with local, state and federal response partners. 2. Coordinate training, drills and evaluated exercises to enhance the Macomb County Health Department's readiness to respond to a pandemic. 3. Coordinate planning and response activities with hospitals and other community partners.
Medical Examiner's Office	<ol style="list-style-type: none"> 1. Lead mass fatality planning and response efforts 2. Coordinate with the support hospitals regarding mass fatalities planning and response. 3. Incorporate funeral home directors into planning efforts for pandemic response. 4. Activate mass fatalities plans when necessary.
Environmental Health Services Division and Animal Shelter	<ol style="list-style-type: none"> 1. Assist in surveillance for animal influenza viruses through liaison with the Michigan Departments of Agriculture and Natural Resources. 2. Disseminate risk communications messages to the public concerning zoonotic influenza virus transmission, food safety, and animal waste disposal issues.
Emergency Medical Services Division	<ol style="list-style-type: none"> 1. Facilitate pandemic planning and response activities with countywide EMS providers. 2. Develop protocols for maintaining critical EMS response capability during a pandemic.

Acknowledgements to Public Health Seattle and King County for sharing the template for this document.

MACOMB COUNTY HEALTH DEPARTMENT

Pandemic Influenza Response Plan

Implementation of Social Distancing Measures

WHO Phase	Level of Influenza Activity In Macomb County	Possible Response Actions
3	Novel influenza virus infecting humans abroad; no sustained human-to-human transmission; no cases in the U.S.	<ul style="list-style-type: none"> o Preparedness planning with partners o Business continuity planning o Initiate public education campaign o Stockpile antiviral medications and essential supplies
4	Limited human-to-human transmission of novel influenza virus abroad; small number of local cases may begin appearing, however all are either imported or have clear epidemiologic links to other cases	<ul style="list-style-type: none"> o Isolation of all cases o Quarantine of close contacts o Recommend Macomb County residents defer travel to countries or areas of the U.S. impacted by the novel virus, as per CDC guidance
4	Limited human-to-human transmission of novel influenza virus in Macomb County; a small number of cases appear without clear epidemiologic links to other cases and / or increased occurrence of influenza among close contacts	<ul style="list-style-type: none"> o Isolation of all cases o Quarantine of close contacts o Recommend Macomb County residents defer travel to countries or areas of the U.S. impacted by the novel virus, as per CDC guidance o Recommend Macomb County residents avoid close contact with other persons to the extent possible by curtailing travel and non-essential contact with other persons
5	Sustained novel influenza virus transmission in Macomb County with a large number of cases identified	<ul style="list-style-type: none"> o Isolation of all cases o Close schools, colleges and universities, libraries, large day care centers o Close churches, theaters, stadiums, community centers o Cancel all large public gatherings o Encourage government and businesses to implement emergency staffing plans o Recommend public transit be used only for essential travel
6	Sustained novel influenza activity in Macomb County with widespread, countywide impact	<ul style="list-style-type: none"> o Consider suspending government functions not dedicated to pandemic response or critical continuity

Response to an Avian Influenza Outbreak in Birds

The Michigan Department of Agriculture and the Michigan Department of Natural Resources are responsible for non-human disease surveillance and control if and when avian influenza is detected in birds in the State of Michigan or Macomb County. The Macomb County Health Department will support the activities of these State agencies as necessary and to the extent possible.

Avian Influenza Surveillance in Wild Birds and Domestic Poultry

- A. The Michigan Department of Natural Resources has primary responsibility for conducting surveillance for avian influenza in wild free-ranging birds. The Michigan Department of Agriculture has primary responsibility for conducting surveillance for avian influenza in domestic poultry.
- B. The Macomb County Health Department Environmental Health Services Division and Animal Shelter will support the surveillance activities of the Michigan Departments of Natural Resources and Agriculture by:
 - 1. Maintaining bird mortality surveillance activities established for West Nile Virus. The Environmental Health Services Division will collect reports of dead and sick birds.
 - 2. Submitting geographically representative dead birds for avian influenza virus testing as directed by the Departments of Natural Resources and Agriculture.
 - 3. Providing information about avian influenza and the reporting of sick and dead birds to community groups, citizens, veterinarians and businesses involved with domestic and wild birds.

Avian Influenza Control in Domestic Poultry

The Michigan Department of Agriculture has primary responsibility for the control of avian influenza in domestic poultry. In the event that highly pathogenic avian influenza virus is detected in domestic birds in Macomb County, the Macomb County Health Department will assist the Michigan Department of Agriculture as necessary to the extent possible.

- A. Quarantine
 - 1. The Macomb County Health Department Environmental Health Services Division, Animal Shelter, and Communicable Disease

Appendix D

Program will support the Michigan Department of Agriculture's activities to establish quarantine zones and restrict human and animal movement by communicating to the citizens of Macomb County how these measures will limit the further spread of avian influenza and reduce the risk of human infection.

2. The Environmental Health Services Division will assist the Michigan Department of Agriculture in investigating potentially infected animals, carcasses or products.

B. Depopulation and Disposal

Macomb County Health Department staff will not be involved in depopulation or disposal activities.

C. Food Safety

When avian influenza is detected in poultry in the United States and especially if found in Macomb County or elsewhere in Michigan, there is likely to be a high level of public concern about food safety. The Environmental Health Services Division will provide information to the public about poultry product safety through press releases, the Macomb County Health Department website, and telephone consultation.

D. Prevention Education

1. The Environmental Health Services Division and the Animal Shelter will educate poultry flock owners and bird hobbyists about avian influenza by distributing printed information to these groups.
2. Hunters will be advised to follow routine precautions when handling birds. They will be advised not to handle or eat sick birds, to wear gloves while handling and cleaning birds, to thoroughly wash their hands and all knives, equipment and surfaces that come in contact with birds, to cook birds thoroughly (160°F), and to avoid drinking, eating and smoking while handling birds.

Disease Surveillance for Avian Influenza Transmittal Directly from Birds to Humans

A. Surveillance

1. In the event that highly pathogenic avian influenza is identified in birds in Macomb County the Communicable Disease Program will conduct active surveillance to detect suspected or confirmed cases of avian influenza in humans by contacting county hospitals on a weekly basis.
2. The Communicable Disease Program will provide healthcare providers with information about the assessment of exposure, clinical signs and symptoms, treatment guidelines and recommended infection control measures. Information will be provided by direct consultation, mass fax, and the Macomb County Health Department website.

B. Laboratory Testing

The Communicable Disease Program will provide information about laboratory testing and specimen collection and will facilitate the testing of human specimens by the Michigan Department of Community Health Laboratory.

C. Management of Cases and Contacts

The Medical Director and the Communicable Disease Program will provide recommendations for the management of human cases and exposed persons based on current guidelines from the Centers for Disease Control and Prevention. This will include recommendations about isolation, quarantine, treatment and prophylaxis.

Protection of Persons at Risk of Avian Influenza Because of Exposure to Infected Wild Birds

The Macomb County Health Department will provide up-to-date information to the public about avian influenza through a hotline, the Macomb County Health Department website and media releases. The public will be advised to avoid touching dead or live birds. In the event of contact, persons will be instructed to wash their hands thoroughly with soap and water, and to avoid rubbing their eyes, eating, drinking or smoking before washing their hands.

Protection of Persons at Risk of Avian Influenza Because of Exposure to Infected Poultry

In the event that avian influenza is identified in domestic poultry in Macomb County the Macomb County Health Department will work with the Michigan Department of Agriculture to disseminate information to healthcare providers and the general public. Information will be disseminated by direct consultation, mass fax and by media release. The following information will be provided:

Appendix D

A. Exposure Risk

Persons at risk include anyone who is directly exposed to infected poultry, poultry products, contaminated surfaces and equipment, and their household members. This could involve:

1. Farmers, poultry owners and caretakers.
2. Persons involved in disease control and eradication activities such as veterinarians, persons involved in euthanasia, carcass disposal, or cleaning premises affected by avian influenza.
3. Household members of the above groups.

B. Infection Control

Persons at risk will be informed about the importance of strict hand hygiene including washing with soap and water for 15-20 seconds or the use of other standard hand disinfection procedures and about the correct use, disinfection or disposal of gloves, protective clothing, and disposable shoe covers, safety goggles, and disposable particulate respirators.

C. Seasonal Influenza Vaccination

Unvaccinated individuals will be instructed to be vaccinated with the current season's influenza vaccine to reduce the possibility that dual infection could occur and result in viral re-assortment.

D. Use of Antiviral Medication

Prior to a pandemic influenza strain spreading through the human population, individuals who have direct contact with infected poultry or contaminated surfaces will be advised to receive influenza antiviral medications based on current Centers for Disease Control and Prevention guidelines.

E. Surveillance

At risk individuals will be instructed to monitor themselves for the development of symptoms of influenza for 1 week after their last exposure to infected poultry or contaminated surfaces. Ill individuals will be directed to seek medical evaluation and to isolate themselves at home until 24 hours after resolution of fever.

Acknowledgements to Public Health Seattle and King County for sharing the template for this document.

MACOMB COUNTY HEALTH DEPARTMENT

Pandemic Influenza Question and Answer Sheet

GENERAL QUESTIONS

What is pandemic influenza?

Influenza viruses cause infections of the respiratory tract (breathing tubes and lungs). In some persons, complications of influenza can be severe, including pneumonia. Pandemic influenza is a global outbreak of disease caused by a new influenza A virus that is unlike past influenza viruses. Because people have not been infected with a similar virus in the past, most or all people will not have any natural immunity (protection) to a new pandemic virus.

How is a pandemic different from regular flu season?

A pandemic influenza virus is a new influenza virus that could cause more serious illness than that seen in a typical flu season. Different from the typical strains of flu, humans would have no or little natural resistance to a new strain of influenza. As a result, pandemic influenza is likely to be more severe, affect more people, and cause more deaths than seasonal influenza. Also, there is a vaccine for seasonal flu, which is prepared each season against new variations of seasonal influenza. There is no vaccine available at this time for a pandemic influenza, and it is expected to take at least six months after a pandemic influenza virus appears to develop a vaccine.

Why is pandemic influenza so serious?

Because most or all people would not have immunity to a new pandemic virus, large numbers of persons around the world can be infected. If the pandemic virus causes severe disease, many people may develop serious illnesses. Some of those who develop severe influenza will die.

Once a pandemic virus develops, it can spread rapidly causing outbreaks around the world. The Centers for Disease Control and Prevention predicts that as much as 25% to 30% of the US population could be affected.

High levels of illness and death during a pandemic could lead to other forms of social and economic disruption. With so many people in so many places becoming ill, caring for the ill, and looking after their children at home, the available workforce will be reduced. Impacts of a pandemic on everyday life may include school and business

Appendix E-1

closings, the interruption of basic services such as public transportation and food delivery, and the cancellation of large public gatherings.

Can pandemic flu be prevented?

It is not possible to prevent or stop a pandemic once it begins. Although the federal government is stockpiling medical supplies and antiviral drugs, no country in the world has enough antiviral drugs to protect all of their citizens. Antiviral drugs can be used to treat severe cases as long as there is a reasonable chance that the drugs might help save lives. Antiviral drugs might also be prioritized for people who work in essential occupations, such as health care workers.

Other strategies for slowing the spread of a severe influenza pandemic could include the temporary closing of schools, sports arenas, theaters, restaurants, and other public gathering places and facilities. There currently is no vaccine to protect humans against pandemic influenza because the pandemic virus has not yet fully developed. However, vaccine development efforts are under way to protect humans against a pandemic influenza virus that might develop from the current bird flu virus in Asia.

When is pandemic influenza A expected?

Influenza pandemics occur naturally. There were 3 pandemics in the 20th century. The pandemic of 1918-19 was the most severe pandemic on record, in which 50 million or more persons around the world died, including approximately 500,000 Americans.

It is not possible to predict accurately when influenza pandemics will occur or how severe they will be. However, the current outbreak of avian influenza in Asia, Europe, and Africa has influenza experts concerned that a pandemic could develop.

Why does the current bird flu outbreak in other parts of the world pose a risk of causing a pandemic influenza A outbreak in humans?

New human influenza viruses arise from bird influenza viruses that change to a form that can infect humans and spread readily from person-to-person. The current bird flu outbreak in Asia is caused by a type of influenza A virus called "H5N1". The H5N1 outbreak among domestic chickens and ducks in Asia, Europe, and Africa is widespread and uncontrolled. Human infections and deaths due to the avian H5N1 virus have occurred. Most of these cases involved direct or close contact with infected birds or surfaces possibly contaminated from the feces of infected birds. However, at this time, the virus has not developed the ability to pass easily from person to person and cause outbreaks in humans.

What are the symptoms of bird flu in humans?

The reported symptoms of bird flu in humans have ranged from typical influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches) to eye infections (conjunctivitis), pneumonia, acute respiratory distress, viral pneumonia, and other severe and life-threatening complications.

What can the public do to reduce their risk of pandemic influenza?

Stay informed. These web sites provide regularly updated information about bird flu and pandemic influenza:

Macomb County Health Department (MCHD)
Michigan Department of Community Health (MDCH)
Department of Health and Human Services (HHS)
Centers for Disease Control and Prevention (CDC)
World Health Organization (WHO)

www.macombcountymi.gov/publichealth
www.michigan.gov/influenza
www.pandemicflu.gov
www.cdc.gov/flu
www.who.int

Stop germs from spreading.

- Wash your hands frequently.
 - o Wash thoroughly with warm water and soap for 20 seconds.
 - o Make sure to wash your hands before eating, or touching your eyes, nose and mouth.
 - o If caring for ill persons, wash your hands after providing assistance.
 - o Always wash your hands after sneezing, blowing your nose, or coughing, or after touching used tissues or handkerchiefs.
 - o If hand washing is not possible, use an alcohol-based hand cleaner.
- Avoid touching your mouth, nose and eyes.
- When coughing and sneezing, cover your mouth and nose with tissue, or cough and sneeze into your upper sleeve. Place used tissues in the trash.
- Don't share items such as cigarettes, towels, lipstick, toys or anything else that might be contaminated with germs.
- Don't share food, utensils or beverage containers with others.
- **Stay home when you are sick.**
- See your health care provider as soon as you can if you have a cough and a fever, and follow their instructions, including taking medicine as prescribed and getting rest.

- If asked, use a mask when visiting your health care provider.

How is pandemic influenza spread?

Pandemic influenza would be spread from person-to-person primarily through “respiratory secretions,” the same way seasonal influenza viruses and other common respiratory infections are spread. Respiratory secretions are virus-containing droplets (such as spit or mucous) that are spread when infected persons cough or sneeze. These droplets can then land on the surfaces of the mouth, nose, and throat of persons who are near (i.e., within 3 feet) the ill person. The virus may also be spread through contact with infectious respiratory secretions on the hands of an infected person and other objects and surfaces.

Adults can spread influenza virus 1-2 days before symptoms appear and up to five days after the onset of illness.

Will the regular (seasonal) flu shot provide any protection against the pandemic influenza virus?

Probably not. But the regular flu shot will protect you against the influenza viruses that are circulating right now.

WHEN A PANDEMIC IS PRESENT

What is the best way to protect myself from pandemic influenza?

Begin now to practice simple but important habits that reduce the spread of germs:

- **Wash your hands frequently.**
 - o Wash thoroughly with warm water and soap for 20 seconds.
 - o Make sure to wash your hands before eating, or touching your eyes, nose and mouth.
 - o If caring for ill persons, wash your hands after providing assistance.
 - o Always wash your hands after sneezing, blowing your nose, or coughing, or after touching used tissues or handkerchiefs.
 - o If hand washing is not possible, use an alcohol-based hand cleaner.
- Avoid touching your mouth, nose and eyes.
- When coughing and sneezing, cover your mouth and nose with tissue, or cough and sneeze into your upper sleeve. Place used tissues in the trash.
- Don't share items such as cigarettes, towels, lipstick, toys or anything else that might be contaminated with germs.

- Don't share food, utensils or beverage containers with others.
- **Stay home when you are sick.**
 - o See your health care provider as soon as you can if you have a cough and a fever, and follow their instructions, including taking medicine as prescribed and getting rest.
 - o If asked, use a mask when visiting your health care provider.

Prepare now for a pandemic by creating a good home disaster preparedness plan.

If I have an influenza-like illness should I ask my doctor to perform a particular test to check for the bird flu virus?

Only if you have recently returned from travel to an area where bird flu is present. Depending on your symptoms, dates of travel, and activities, additional testing might be recommended. Let your healthcare provider know about your travel history and if you had contact with poultry or bird markets.

Should I buy Tamiflu (oseltamivir) for my home?

Tamiflu is a prescription antiviral drug that works against influenza viruses. It is not known if it will be useful against a pandemic influenza virus. Tamiflu is not recommended for persons to keep at home in case of a pandemic.

Will there be enough Tamiflu for everyone if there is a pandemic, and if not, who will get it?

Although the federal government is stockpiling medical supplies and antiviral drugs such as Tamiflu, no country in the world has enough Tamiflu to protect all their citizens.

Public health officials have recommended using available supplies of Tamiflu first to treat persons with severe infections that require hospitalization, and persons that will perform vital functions that the public will need in a pandemic. These groups include healthcare workers and emergency responders.

Because the drug needs to be taken every day for weeks in order to prevent influenza infections and the supply is limited, Tamiflu is not recommended for this purpose during a pandemic.

Should I wear a mask at work to protect myself from pandemic influenza?

Masks are recommended for use in health care settings by ill persons and healthcare workers to prevent spread of infection. At this time, masks are not recommended for

Appendix E-1

use by well persons in the community. There is no guarantee that masks would prevent the spread of the infection in the population.

If persons decide to wear masks during an influenza pandemic, it is likely they will need to wear them any time they are in a public place and when they are around other household members.

Do I need to disinfect surfaces that have been in contact with a person with influenza?

Yes, wipe down any surfaces that may have been contaminated by saliva or other respiratory secretions.

Influenza viruses are known to survive on non-porous surfaces such as steel and plastic, for up to 24 to 48 hours after inoculation and on cloth, paper, and tissues for up to 8 to 12 hours. Viable virus can be transferred from non-porous surfaces to hands for 24 hours and from tissues to hands for 15 minutes.

Use a household disinfectant labeled for use against bacteria and viruses, an Environmental Protection Agency registered hospital disinfectant, or mix and use ¼ cup chlorine bleach with 1 gallon of cool water.

Why does it take so long to develop a pandemic influenza vaccine?

Vaccine production is a complicated and lengthy process. Because viruses change over time, a specific pandemic influenza vaccine cannot be produced until a pandemic influenza virus emerges in humans. Once a pandemic influenza virus has been identified, it will likely take 6-8 months to develop, test, and begin producing a vaccine.

In preparation, the U.S. government is making efforts to increase manufacturers' ability to produce vaccine. Research is also underway to develop new ways to produce vaccines more quickly.

BIRD FLU

Is it safe to eat chicken, poultry, and eggs?

Yes, eating properly cooked poultry, as well as eggs, is safe. The U.S. government has banned imported poultry from countries affected by bird flu. At the present time, bird flu is not present in the U.S.

Appendix E-1

For protection against many types of food borne diseases, such as salmonellosis, all poultry should be cooked to 165°F or hotter. Cooking also destroys flu viruses. Eggs from infected poultry could be contaminated with the virus, so avoid eating raw or lightly cooked eggs in such foods as raw cookie dough, homemade mayonnaise, and dressings made with raw eggs.

I live near people who keep chickens and other poultry. Am I safe?

This does not present a risk. At the present time, the H5N1 strain of bird flu that has spread through poultry farms in southeast Asia and into eastern Europe is not present in the U.S. Even if the H5N1 strain were to appear in the U.S., transmission from birds to people would require close contact with birds, which can occur during the handling or butchering of chickens.

I have a bird feeder and a bird bath in my yard. Is this safe?

Maintaining a clean bird feeder or bird bath is generally safe, unless these are attracting rodents or raccoons. It is always best to wear protective gloves when handling or cleaning these items to avoid contact with bird droppings or contaminated water in a bird bath. Always wash your hands with soap and water after doing these activities.

Does owning a caged pet bird increase the possibility of catching or spreading avian flu?

The likelihood of getting a pet bird that is already infected with avian flu is very low. It is illegal in the U.S. to import pet birds from regions that are infected with bird flu. In addition, if you're concerned and already own a pet bird, keep it inside to avoid exposure to wild or migratory birds.

If you are buying a new bird, especially of an exotic variety, be sure it has been legally imported. Smuggled birds from affected areas could possibly be infected with the bird flu virus.

Can bird flu virus spread to my pet dog and cat?

There is no evidence that bird flu is a risk to dogs. Recently, there have been reports of a canine influenza virus in the U.S. but this is a different flu virus that affects only dogs. There is evidence from the Asian outbreak that the bird flu virus might affect cats fed raw poultry, but there is currently no cause for concern because the virus is not present in the U.S.

What is being done to monitor for bird flu in wild birds?

Several agencies are conducting surveillance for bird flu among wild birds, especially migratory waterfowl. Surveillance is being strengthened in certain parts of the country such as Alaska because it is believed that migratory birds like ducks and geese could carry bird flu there from Asia and Russia.

What should I do if I find a dead bird?

If you discover several (six or more) sick or dead waterfowl in one area you should contact the Michigan Department of Natural Resources Wildlife Disease Laboratory at (517) 336-5030. If a single dead bird is discovered you should fill out the dead bird form at www.michigan.gov/emergingdiseases or call a local Michigan Department of Natural Resources field office.

You may dispose of a dead bird by double bagging in a plastic bag and discarding it in your household garbage. Use gloves or a shovel to avoid touching the bird or any other dead animal with your bare hands.

I have a small flock of chickens in my backyard. Are there any special precautions I should take to keep them from getting bird flu?

You should practice good sanitation and preventive measures, such as reducing exposure to wild birds, to guard against a variety of diseases.

If birds in your flock die unexpectedly, you can report this to the Michigan Department of Agriculture at (517) 373-1077. Testing for bird flu may be recommended as part of the state's monitoring program.

Acknowledgements to Public Health Seattle and King County for sharing the template for this document.

MACOMB COUNTY HEALTH DEPARTMENT

Information About Pandemic Influenza

A pandemic is a global disease outbreak. An influenza pandemic occurs when a new influenza virus emerges for which there is little or no immunity in the human population, and begins to cause serious illness and then spreads easily from person-to-person worldwide.

Three influenza pandemics occurred in the 20th Century:

- The 1918 influenza pandemic caused at least 500,000 U.S. deaths and up to 50 million deaths worldwide
- The 1957 influenza pandemic caused at least 70,000 U.S. deaths and 1-2 million deaths worldwide
- The 1968 influenza pandemic caused about 34,000 U.S. deaths and 700,000 deaths worldwide

Challenges During an Influenza Pandemic:

1. There Will Be Rapid Worldwide Spread

- When a pandemic influenza virus emerges, its global spread is considered inevitable.
- Preparedness activities must take into consideration that the entire world population would be susceptible.
- Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but cannot stop it.

2. Health Care Systems Will Be Overloaded

- Most people will have little or no immunity to a pandemic virus. Infection and illness rates will be high. A substantial percentage of the world's population will require some form of medical care.
- Nations will likely not have the staff, facilities, equipment and hospital beds needed to cope with the large numbers of people who will suddenly become ill.

Appendix E-2

- Death rates will be high, largely determined by four factors; the number of people who become infected, the virulence of the virus, the underlying characteristics and vulnerability of affected populations and the effectiveness of preventive measures.
- Past pandemics have spread globally in two and sometimes three waves.

3. Medical Supplies Will Be Inadequate

- The need for vaccine will likely outstrip supply.
- The need for antiviral drugs will also likely be inadequate early in a pandemic.
- A pandemic can create a shortage of hospital beds, ventilators and other supplies. Surge capacity at non-traditional sites such as schools may be created to cope with demand.
- Difficult decisions will need to be made regarding who gets antiviral drugs and vaccines.

4. There Will Be Economic and Social Disruption

- Travel bans, school closings and the cancellation of events could have a major impact on communities and citizens.
- The care of sick family members and the fear of exposure will result in significant worker absenteeism.

Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education for sharing the template for this document.

MACOMB COUNTY HEALTH DEPARTMENT

Public Health Instructions During an Influenza Pandemic

Throughout an influenza pandemic, people may be asked or required to do things to limit the spread of the disease in Macomb County.

Here are some examples of what the Macomb County Health Department may ask people to do:

STAY HOME

People who are sick should stay home. Children should not go to school if they are sick. Staying home will be absolutely necessary during an influenza pandemic to limit the spread of the disease.

AVOID LARGE GROUPS

People (even those who are well) should stay away from gatherings of people at sporting events, movies and festivals. During an influenza pandemic these kinds of events could be cancelled because large gatherings of people help spread the influenza virus.

ISOLATION AND QUARANTINE

Isolation and Quarantine are public health measures used to contain the spread of a contagious disease. If asked, it will be important to follow Isolation and/or Quarantine instructions.

ISOLATION is for people who are already ill. When someone is isolated, they are separated from people who are healthy. Having the sick person isolated (separated from others) can help to slow or stop the spread of disease. People who are isolated can be cared for in their homes, in hospitals, or other healthcare facilities. Isolation is usually voluntary, but the Macomb County Health Department has the power to require the isolation of sick people to protect the public.

QUARANTINE is for people who have been exposed to the disease but are not sick. When someone is placed in quarantine, they are also separated from others. Even though the person is not sick at the moment, they were exposed to the disease and may still become infectious and then spread the disease to others. Quarantine can help to slow or stop this from happening. Quarantine is usually voluntary, but the Macomb County Health Department has the power to enforce quarantine measures within Macomb County.

MACOMB COUNTY HEALTH DEPARTMENT

Home Care Infection Control Guidance for Pandemic Influenza Patients and Household Members

Most patients with pandemic influenza will be able to remain at home during the course of their illness and can be cared for by family members or others who live in the household. Anyone who has been in the household with an influenza patient during the incubation period is at risk for developing influenza. A key objective in this setting is to limit transmission of pandemic influenza within and outside the home.

Management of influenza patients in the home

- Physically separate the patient with influenza from non-ill persons living in the home as much as possible.
- Patients should not leave the home during the period when they are most likely to be infectious to others (i.e., 5 days after onset of symptoms). When movement outside the home is necessary (e.g., for medical care), the patient should follow respiratory hygiene/cough etiquette (i.e., cover the mouth and nose when coughing and sneezing) and should wear a mask.

Management of other persons in the home

- Persons who have not been exposed to pandemic influenza and who are not essential for patient care or support should not enter the home while persons are still having a fever due to pandemic influenza.
- If unexposed persons must enter the home, they should avoid close contact with the patient.
- Persons living in the home with the patient with pandemic influenza should limit contact with the patient to the extent possible. Consider designating one person as the primary care provider.
- Household members should be vigilant for the development of influenza symptoms. Consult with healthcare providers to determine whether a pandemic influenza vaccine, if available, or antiviral prophylaxis should be considered.

Infection control measures in the home

- All persons in the household should carefully follow recommendations for hand hygiene (i.e., hand washing with soap and water or use of an alcohol-based hand rub) after contact with an influenza patient or the environment in which they are receiving care.
- Although no studies have assessed the use of masks at home to decrease the spread of infection, using a surgical or procedure mask by the patient or caregiver during interactions may be beneficial.
- Soiled dishes and eating utensils should be washed either in a dishwasher or by hand with warm water and soap. Separation of eating utensils for use by a patient with influenza is not necessary.
- Laundry may be washed in a standard washing machine with warm or cold water and detergent. It is not necessary to separate soiled linen and laundry used by a patient with influenza from other household laundry. Care should be used when handling soiled laundry (i.e., avoid “hugging” the laundry) to avoid self-contamination. Hand hygiene should be performed after handling soiled laundry.
- Tissues used by the ill patient should be placed in a bag and disposed of with other household waste. Consider placing a bag for this purpose at the bedside.
- Environmental surfaces in the home should be cleaned using normal procedures.

Appendix F

Priority Groups For Receiving Antiviral Medications During a Pandemic

If antiviral supplies are limited, treatment and prophylaxis during a pandemic will be prioritized as follows:

1. Treat patients hospitalized with influenza;
2. Treat healthcare workers with direct patient contact and Emergency Medical System workers;
3. Treat highest risk outpatients (immunocompromised and pregnant women);
4. Treat pandemic health responders, public safety and key government decision makers;
5. Treat increased risk populations – young children 12 – 23 months old, people over 65, and people with underlying medical conditions;
6. Provide post-exposure prophylaxis in certain environments (e.g., nursing homes and other residential settings);
7. Provide prophylaxis for Emergency Medical System and healthcare workers and in emergency rooms, Intensive Care Units, and dialysis centers;
8. Treat critical infrastructure responders and healthcare workers without direct patient contact;
9. Treat other outpatients not included in categories above;
10. Provide prophylaxis to highest risk outpatients (immunocompromised and pregnant women);
11. Provide prophylaxis for other healthcare workers with direct patient contact.

Priority Groups For Influenza Vaccination During a Pandemic

Tier 1	Subtier A	Subtier B	Subtier C	Subtier D
Description	<ul style="list-style-type: none"> Healthcare workers (HCWs) providing direct patient care Essential healthcare support personnel Vaccinators 	<ul style="list-style-type: none"> High-risk patients 65 years old or older with one high risk condition Patients 6 months to 64 years old with two high risk conditions People 6 months or older hospitalized in the past year for influenza, pneumonia, or a high-risk condition 	<ul style="list-style-type: none"> Pregnant women Household contacts of people who are severely immune-compromised Household contacts of children less than 6 months old 	<ul style="list-style-type: none"> Public health emergency responders critical to pandemic response Key government leaders

Tier 2	Subtier A	Subtier B
Description	<ul style="list-style-type: none"> All healthy people 65 years old and older People 6 months to 64 years old with one high risk condition Healthy children 6 to 23 months old 	<ul style="list-style-type: none"> Other public health emergency responders Public safety workers including police, fire, 911 dispatchers and correctional facility staff Utility workers essential for maintenance of power, water, and sewage system Transportation workers transporting fuel, water, food, and medical supplies as well as public ground transportation Telecommunications workers or essential network operations and maintenance

Appendix G

Priority Groups For Influenza Vaccination During a Pandemic

Tier 3	Subtier A
Description	<ul style="list-style-type: none">• Key government health decision-makers• Funeral home directors and embalmers

Tier 4	Subtier A
Description	<ul style="list-style-type: none">• Healthy people 2 to 64 years old not included in the categories above

*Based on guidelines included in the
Department of Health and Human Services Pandemic Influenza Plan, 2005*

Macomb County Health Department

Avian Influenza A (H5N1) Case Detection and Initial Management Guidelines

Testing for avian influenza A (H5N1) virus infection is recommended for:

A patient who has an illness that:

- Requires hospitalization or is fatal; AND
 - Has or had a documented temperature of $\geq 38^{\circ}\text{C}$ ($\geq 100.4^{\circ}\text{F}$); AND
 - Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; AND
 - Has at least one of the following potential exposures within 10 days of symptom onset:
- A. History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans,¹ AND had at least one of the following potential exposures during travel:
- Direct contact with (e.g., touching) sick or dead domestic poultry;
 - Direct contact with surfaces contaminated with poultry feces;
 - Consumption of raw or incompletely cooked poultry or poultry products;
 - Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
 - Close contact (within 3 feet) of a person who has been hospitalized or died due to a severe unexplained respiratory illness;
- B. Close contact (within 3 feet) of an ill patient who was confirmed or suspected to have H5N1;
- C. Worked with live influenza H5N1 virus in a laboratory.

Testing for avian influenza A (H5N1) virus can be considered on a case-by-case basis, in consultation with the Macomb County Health Department and the Michigan Department of Community Health, for:

- A patient with mild or atypical disease² (hospitalized or ambulatory) who has one of the exposures listed above (criteria A, B or C); OR
- A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above (examples include: a returned traveler from an influenza H5N1-affected country whose exposures are unclear or suspicious, a person who had contact with sick or well-appearing poultry, etc.)

Meets exposure criteria

- Initiate Standard and Droplet Precautions³
- Notify Macomb County Health Department Communicable Disease Program at (586) 783-8161
- Collect and submit specimens for influenza virus testing after consultation with the Macomb County Health Department⁶
- Treat as clinically indicated⁴
- Initiate general work-up as clinically indicated⁵
- Begin empiric antiviral treatment⁷
- Help identify contacts, including HCWs⁸

Does not meet exposure criteria

Treat as clinically indicated. Re-evaluate if suspicion increases.

Novel Influenza Virus Positive by RT-PCR or culture

- Continue Standard and Droplet Precautions³
- Continue antivirals⁷
- Do not cohort with seasonal influenza patients
- Treat complications, such as 2^o bacterial pneumonia¹⁰
- Provide clinical updates to the Macomb County Health Department

All influenza testing negative

- Continue infection control precautions, as appropriate³
- Treat complications, such as 2^o bacterial pneumonia¹⁰
- Consider discontinuing antivirals, if appropriate⁷

Seasonal influenza positive by culture or RT-PCR

- Continue Standard and Droplet Precautions³
- Continue antiviral treatment for a minimum of 5 days⁷
- Treat complications, such as secondary bacterial pneumonia, as indicated¹⁰

Report all suspected cases of novel influenza to the Macomb County Health Department Communicable Disease Program at (586) 783-8161

1. Updated information on areas where novel influenza virus transmission is suspected or documented is available on the Centers for Disease Control and Prevention website at www.cdc.gov and on the World Health Organization website at www.who.int/en/.
2. For example, a patient with respiratory illness and fever who does not require hospitalization, or a patient with significant neurologic or gastrointestinal symptoms in the absence of respiratory disease.
3. Standard and Droplet Precautions should be used when caring for patients with novel or seasonal influenza.
4. Hospitalization should be based on all clinical factors, including the potential for infectiousness and the ability to practice adequate infection control. If hospitalization is not clinically warranted, and treatment and infection control is feasible in the home, the patient may be managed as an outpatient. CONSULT with the Macomb County Health Department before discharging patients with suspected novel influenza virus infection.
5. The general work-up should be guided by clinical indications.
6. Guidelines for novel influenza virus testing can be found in Appendix J.
7. Strategies for the use of antiviral drugs are provided in Appendix I.
8. Guidelines for the management of contacts in a health care setting are provided in the United States Department of Health and Human Services Pandemic Influenza Plan Supplement 3.
9. Given the unknown sensitivity of tests for novel influenza viruses, interpretation of negative results should be tailored to the individual patient in consultation with the Macomb County Health Department. Novel influenza directed management may need to be continued, depending on the strength of clinical and epidemiologic suspicion. Antiviral therapy and isolation precautions for novel influenza may be discontinued on the basis of an alternative diagnosis. The following criteria may be considered for this evaluation:
 - Absence of strong epidemiologic link to known cases of novel influenza
 - Alternative diagnosis confirmed using a test with a high positive-predictive value
 - Clinical manifestations explained by the alternative diagnosis
10. Guidance on the evaluation and treatment of suspected post-influenza community-associated pneumonia is provided in the United States Department of Health and Human Services Pandemic Influenza Plan Appendix 3.

**World Health Organization
Guidelines for Pharmacological Management
of Avian Influenza A (H5N1)**

Recommendations for Treatment of Patients with Confirmed or Strongly Suspected Infection with H5N1 Virus

Neuraminidase Inhibitors Are Available

- Clinicians should administer oseltamivir treatment (strong recommendation); zanamivir might be used as an alternative (weak recommendation). The quality of evidence if considered on a continuum is lower for the use of zanamivir compared to oseltamivir.
- Clinicians should not administer amantadine or rimantadine alone as a first-line treatment (strong recommendation).
- Clinicians might administer a combination of a neuraminidase inhibitor and an M2 inhibitor if local surveillance data show that the H5N1 virus is known or likely to be susceptible (weak recommendation), but this should only be done in the context of prospective data collection.

Neuraminidase Inhibitors Are Not Available

- Clinicians might administer amantadine or rimantadine as a first-line treatment if local surveillance data show that the H5N1 virus is known or likely to be susceptible to these drugs (weak recommendation).

Recommendations for Chemoprophylaxis

Neuraminidase Inhibitors Are Available

- In high risk exposure groups, including pregnant women, oseltamivir should be administered as chemoprophylaxis, continuing for 7-10 days after the last exposure (strong recommendation); zanamivir could be used in the same way (strong recommendation) as an alternative.
- In moderate risk exposure groups, including pregnant women, oseltamivir might be administered as chemoprophylaxis, continuing for 7-10 days after the last exposure (weak recommendation); zanamivir might be used in the same way (weak recommendation).
- In low risk exposure groups oseltamivir or zanamivir should probably **not** be administered for chemoprophylaxis (weak recommendation). Pregnant women in the low risk group **should not** receive oseltamivir or zanamivir for chemoprophylaxis (strong recommendation).

- Amantadine or rimantadine **should not** be administered as chemoprophylaxis (strong recommendation).

Neuraminidase Inhibitors Are Not Available

- In high or moderate risk exposure groups, amantadine or rimantadine might be administered for chemoprophylaxis if local surveillance data show that the virus is known or likely to be susceptible to these drugs (weak recommendation).
- In low risk exposure groups, amantadine and rimantadine should not be administered for chemoprophylaxis (weak recommendation).
- In pregnant women, amantadine and rimantadine should not be administered for chemoprophylaxis (strong recommendation).
- In the elderly, people with impaired renal function and individuals receiving neuropsychiatric medication or with neuropsychiatric or seizure disorders, amantadine should not be administered for chemoprophylaxis (strong recommendation).

Risk Categories for Chemoprophylaxis

High risk exposure groups are currently defined as:

- Household or close family contacts of a strongly suspected or confirmed H5N1 patient, because of potential exposure to a common environmental or poultry source as well as exposure to the index case.

Moderate risk exposure groups are currently defined as:

- Personnel involved in handling sick animals or decontaminating affected environments (including animal disposal) if personal protective equipment may not have been used properly.
- Individuals with unprotected and very close direct exposure to sick or dead animals infected with the H5N1 virus or to particular birds that have been directly implicated in human cases.
- Health care personnel in close contact with strongly suspected or confirmed H5N1 patients, for example during intubation or performing tracheal suctioning, or delivering nebulised drugs, or handling inadequately screened/sealed body fluids without any or with insufficient personal protective equipment. This group also includes laboratory personnel who might have an unprotected exposure to virus-containing samples.

Appendix I

Low risk exposure groups are currently defined as:

- Health care workers not in close contact (distance greater than 1 meter) with a strongly suspected or confirmed H5N1 patient and having no direct contact with infectious material from that patient.
- Health care workers who used appropriate personal protective equipment during exposure to H5N1 patients.
- Personnel involved in culling non-infected or likely non-infected animal populations as a control measure.
- Personnel involved in handling sick animals or decontaminating affected environments (including animal disposal), who used proper personal protective equipment.

Recommended Dosages for Oseltamivir (Tamiflu)

For treatment of influenza:

- Adults: 75 milligrams (mg) two times a day for five days
- Children 1 year of age or older: weight adjusted doses
 - 30 mg twice daily for ≤ 15 kg
 - 45 mg twice daily for >15 to 23 kg
 - 60 mg twice daily for >23 to 40 kg
 - 75 mg twice daily for >40 kg
- Children up to 1 year of age: not recommended

For prevention of influenza:

- Adults and teenagers 13 years of age or older: 75 mg once a day for at least seven days.
- Children from 1 year to 13 years of age weight adjusted doses:
 - 30 mg daily for ≤ 15 kg
 - 45 mg daily for >15 to 23 kg
 - 60 mg daily for > 23 to 40 kg
 - 75 mg daily for >40 kg

MACOMB COUNTY HEALTH DEPARTMENT

Avian Influenza A (H5N1) Specimen Collection and Testing Guidelines *

- Oropharyngeal swab specimens and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they appear to contain the highest quantity of virus for influenza H5N1 detection, as determined on the basis of available data. Nasal or nasopharyngeal swab specimens are acceptable, but may contain less virus and therefore are not optimal specimens for virus detection.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Bronchoalveolar lavage is considered to be a high-risk aerosol-generating procedure. Therefore, infection control precautions should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher rated filter. A loose-fitting powered air-purifying respirator (PAPR) may be used if fit-testing is not possible (for example, if the person has a beard).
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended. Specimens can be transported in viral transport media, Hanks balanced salt solution, cell culture medium, tryptose-phosphate broth, veal infusion broth, or sucrose-phosphate buffer. Transport media should be supplemented with protein, such as bovine serum albumin or gelatin, to a concentration of 0.5% to 1%. Specimens should be placed at 4°C immediately after collection.
- For reverse-transcriptase polymerase chain reaction (RT-PCR) analysis, nucleic acid extraction lysis buffer can be added to specimens (for virus inactivation and RNA stabilization), after which specimens can be stored and shipped at 4°C. Otherwise, specimens should be frozen at or below -70°C and shipped on dry ice. For viral isolation, specimens can be stored and shipped at 4°C. If specimens are not expected to be inoculated into culture within 2 days, they should be frozen at or below -70°C and shipped on dry ice. Avoid repeated freeze/thaw cycles.

* Additional information about specimen collection, packaging, and transport can be found in the Michigan Department of Community Health Pandemic Influenza Plan (www.michigan.gov/flu).

Appendix J

- Influenza H5N1-specific RT-PCR testing conducted under Biosafety Level 2 conditions is the preferred method for diagnosis.
- Viral culture should NOT be attempted on specimens from patients suspected to have influenza H5N1, unless conducted under Biosafety Level 3 conditions with enhancements.
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and avian influenza A viruses.
- Serologic testing for influenza H5N1-specific antibody, using appropriately timed specimens, can be considered if other influenza H5N1 diagnostic testing methods are unsuccessful (for example, due to delays in respiratory specimen collection). Paired serum specimens from the same patient are required for influenza H5N1 diagnosis. One sample should be tested within the first week of illness, and a second sample should be tested 2-4 weeks later. A demonstrated rise in the H5N1-specific antibody level is required for a diagnosis of H5N1 infection. Currently, the microneutralization assay, which requires live virus, is the recommended test for measuring H5N1-specific antibody.

MACOMB COUNTY HEALTH DEPARTMENT

Sample Pandemic Influenza Press Release

Influenza Alert

For Immediate Release

Contact: _____

Date: _____

Title: _____

The Macomb County Health Department has declared a public health emergency. The Department is alerting Macomb County residents to take precautions to minimize the spread of the influenza virus. There is a new strain of influenza virus that is unusually virulent, which means that most people have little or no natural immunity to protect them from illness. Not only have more people come down with the “flu,” the illness has been more severe.

At this time, there is no vaccine available to prevent this new strain of the flu. This makes prevention measures even more important.

Symptoms of the flu include abrupt onset of chills and fever, muscle aches, sore throat, and cough. Those who develop “flu” symptoms should notify their healthcare provider. Influenza virus is contagious from person-to-person. Infection spreads when droplets from a cough or sneeze of an infected person reach the mucous membranes of another person’s mouth, nose, or eyes, or if they touch a surface or object (such as a doorknob or stair railing) contaminated with infectious droplets from sneezing or coughing and then touch their own mouth, nose, or eyes.

The risk of becoming ill can be reduced by frequent hand washing and keeping your hands away from your eyes, nose, and mouth. Also, try to avoid contact with people who have respiratory illnesses.

Those who become ill should stay home. This is crucial to prevent the spread of this disease to others, including co-workers and other people who would be encountered in public places.

If someone in the household has the flu, other family members can decrease their risk of becoming ill by wearing a mask over their nose and mouth whenever they come within 3 feet of the sick person. They should wear gloves whenever they come in contact with him or her or items they have handled and wash their hands after removing the gloves.

For more information, visit the Macomb County Health Department website at www.macombcountymi.gov/publichealth.

MACOMB COUNTY HEALTH DEPARTMENT

School Planning and Response Guidelines for Pandemic Influenza

The following is a list of activities schools should perform before, during, and after an influenza pandemic (also see School District Pandemic Influenza Planning Checklist available at www.pandemicflu.gov).

Pre-Pandemic Planning

- Create a pandemic influenza response plan.
- Identify individuals to educate staff and students about pandemic influenza and infection control measures (handwashing, covering coughs and sneezes with a tissue, staying home when sick).
- Insure that standard communicable disease reporting procedures for influenza-like illness are in place and implemented (see Appendix L-10).
- Train school nurses and other school staff to recognize influenza-like illness symptoms in students and staff.
- Develop a plan to deal with school operations with 30% of the work force absent due to illness. Consider staggered school start times, changes in bus schedules, and telecommuting.
- Develop alternative learning strategies in the event that schools are closed for a prolonged period of time (e.g., 6-8 weeks).
- Insure that each classroom has either soap and running water for handwashing or an alcohol-based handwashing product. Place disposable tissue in each classroom.
- Distribute and post in each classroom the “Cover Your Cough” poster available at (www.cdc.gov/flu/protect/covercough.htm) or a similar type poster.
- Develop procedures for communicating with staff, students, families, the media, and the Macomb County Health Department during a pandemic.
- Send a pandemic influenza letter and an information sheet to families (see Appendix L-2 and Appendix L-9).

Pandemic Response

Outbreak of Pandemic Influenza Virus in Macomb County (Less than 10% of Students Ill)

- Begin heightened surveillance reporting (see Appendix L-10).
- Send a letter to parents (see Appendix L-4) informing them that some students are ill but that schools will remain open. Include an information sheet (see Appendix L-9) with the letter.
- Reinforce infection control behaviors in the schools.

Expansion of Pandemic Influenza Virus Transmission in Macomb County (More than 10%, but less than 30% of Students are Ill).

- Begin intensive surveillance reporting activities (see Appendix L-10).
- Send a letter to parents (see Appendix L-5) informing them of the expansion of the pandemic. Include an information sheet (see Appendix L-9) with the letter.
- Continue to reinforce infection control behaviors in the schools.

Continued Expansion of Pandemic Influenza Virus Transmission in Macomb County (More than 30% of Students Ill)

- Macomb County Health Department will issue a public health order to close schools (see Appendix L-8)
- Close schools
- Send a letter to parents announcing the closure of schools (see Appendix L-6).
- Cancel all non-academic activities and events

Pandemic Recovery

- Macomb County Health Department will issue declaration that schools can open.
- Send a letter to parents announcing that schools will reopen (see Appendix L-7)
- Open schools

Appendix L-1

- Continue infection control behaviors in the schools.
- Return to heightened surveillance until notified by the Macomb County Health Department Communicable Disease Program to return to standard surveillance activities (see Appendix L-10).
- If students begin to develop illness at increasing levels (second pandemic wave) repeat previous activities.

*Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education
for sharing the template for this document.*

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 1

This letter may be used to help prepare parents for an influenza pandemic before human pandemic influenza cases or avian influenza cases have been identified in the United States.

Dear Parent,

Almost daily, we hear about the outbreak of avian influenza that has spread to many countries around the world. It is important to know that, at this time, avian influenza is not occurring in the United States. However, it may arrive here in the near future. Although avian influenza has infected millions of birds, it usually does not infect people.

Scientists and public health professionals are concerned that the avian influenza virus may change so that it can infect people and spread easily from person-to-person. This would cause a worldwide influenza outbreak, called a pandemic. The purpose of this letter is to provide you with information to help you and your family prepare for an influenza pandemic.

If pandemic influenza spreads to Macomb County, it may be necessary to close schools for an extended period of time (for example, up to 6 weeks). The purpose of closing schools would be to decrease contact among children in order to decrease their risk of getting sick and to limit the spread of infection.

Enclosed with this letter is an information sheet to help families prepare for an influenza pandemic. This information can also help your family prepare for any kind of emergency.

If you have questions you may contact the school at _____ or the Macomb County Health Department Communicable Disease Program at (586) 783-8190.

Additional information is available at the following websites:
www.macombcounty.gov/publichealth and www.pandemicflu.gov.

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 2

This letter may be used to help prepare parents for an influenza pandemic after the first avian influenza (H5N1) infected bird has been found in the United States.

Dear Parent,

As expected, birds sick with avian influenza virus are now in the United States. It is important to know that, at this time, there are no known human cases of avian influenza in the United States.

Health officials are worried that the avian influenza virus may change so that people can get sick from the virus. If that happens it could spread from person-to-person. This would cause a worldwide influenza outbreak, called a pandemic.

Even though there is no influenza pandemic now, we want to remind you about some ways to protect your family from getting sick:

- Keep children who are sick at home. Do not send them to school.
- Teach your children to wash their hands frequently with soap and water for 20 seconds. Be sure to set a good example by doing this yourself.
- Teach your children to cover coughs and sneezes with tissue or by coughing into the inside of their elbow. Be sure to set a good example by doing this yourself.
- Teach your children to stay at least three feet away from people who are sick.
- People who are sick should stay home from work or school and avoid other people until they are better.
- Do not touch sick or dead birds.

Enclosed with this letter is an information sheet to help families get ready for an influenza pandemic. This information can also help your family get ready for any kind of emergency.

If you have questions, please contact your School Nurse or healthcare provider. You can also call the school at _____ or the Macomb County Health Department Communicable Disease Program at (586) 783-8190.

Additional information is available at the following websites:
www.macombcounty.gov/publichealth and www.pandemicflu.gov.

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 3

This is an initial pandemic influenza letter. This letter may be used to let parents know that schools are open.

Dear Parent,

This letter will give you information about the influenza outbreak in Macomb County. Every year, some people get sick with influenza during the fall and winter months. This year, there is a new influenza virus that is making many people in Macomb County sick. Because so many people are sick in Macomb County and the United States health officials have declared an influenza pandemic.

A large number of students and teachers in our school are sick with influenza. We hope they will all get better quickly.

At this time, the Macomb County Health Department has told us that students who are not ill can safely come to school. The schools will remain open. We will keep you updated with any important information.

To keep influenza from spreading to more people, sick children should stay home. Any children who are sick in school will be sent home.

Public health officials want you to protect yourself and your family against pandemic influenza. Here are some ways to stop the spread of germs and sickness:

- Keep children who are sick at home. Don't send them to school.
- Teach your children to wash their hands frequently with soap and water for 20 seconds. Be sure to set a good example by doing this yourself.
- Teach your children to cover coughs and sneezes with tissue or by coughing into the inside of their elbow. Be sure to set a good example by doing this yourself.
- Teach your children to stay at least three feet away from people who are sick.
- People who are sick should stay home from work or school and avoid other people until they are better.

Appendix L-4

- Stay away from shopping malls, movie theaters or other places where large groups of people gather.

Enclosed with this letter is an information sheet to help deal with an influenza pandemic and care for your family if they are ill.

If you have questions, please contact your School Nurse or healthcare provider. You can also call the school at _____ or the Macomb County Health Department Communicable Disease Program at (586) 783-8190.

If the pandemic influenza virus continues to spread and more students become ill, schools may close for days or weeks. The purpose of closing schools will be to keep children from getting sick. If schools are closed, children should stay at home. Begin planning now for childcare in your home.

Recommendations may change during the course of an influenza pandemic.

*Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education
for sharing the template for this document.*

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 4

This letter may be used to let parents know that schools are open and to urge sick children to stay home.

Dear Parent,

We wrote to you recently to tell you about an influenza outbreak in our community. This letter is intended to provide you with additional information.

There are now more students and teachers in our school who are ill with the influenza virus. The Macomb County Health Department has informed us that students who are not ill can continue to attend school. The schools will remain open. We will keep you updated with any important information.

To keep influenza from spreading to more people, children who are sick should stay home. Any children who are sick in school will be sent home.

Public health officials want you to protect yourself and your family against pandemic influenza. Here are some ways to stop the spread of germs and sickness and take care of your family:

- Keep children who are sick at home. Don't send them to school
- If some of the people in your home are sick with influenza keep them away from the people who are not sick.
- If some of the people in your home are sick with influenza and you cannot see a healthcare provider, some things you can do to help them are:
 - Have them drink a lot of liquid (juice, water)
 - Keep the ill person as comfortable as possible. Rest is important
 - For fever, sore throat and muscle aches, in adults, use ibuprofen (Motrin) or acetaminophen (Tylenol). Do not use aspirin with children or teenagers. It can cause Reye's syndrome, a life-threatening illness.
 - Keep tissues and a trash bag within reach of the sick person.
 - Be sure everyone in your home washes their hands frequently.

Appendix L-5

- Contact a healthcare provider for further advice. If the ill person is having difficulty breathing or is getting worse, contact a healthcare provider right away.

If pandemic influenza continues to spread and more students and teachers become ill, schools may close for days or weeks. The purpose of closing schools will be to keep children from getting sick. If schools are closed, children should stay at home. Begin planning now for childcare in your home.

If you have questions you may contact the school at _____ or the Macomb County Health Department Communicable Disease Program at (586) 783-8190.

*Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education
for sharing the template for this document.*

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 5

This letter may be used to inform parents that schools are closed.

Dear Parent,

The Macomb County Health Department has ordered all schools in Macomb County to close. This order is because of the influenza pandemic in Macomb County. All schools are immediately closed until further notice and children should stay home.

Schools may be closed for days or even weeks to reduce contact among children and stop the spread of influenza.

Because influenza is easily spread from person-to-person, it is not safe for large groups of people to gather. During this time, both children and adults should stay away from other people and groups as much as possible. They should not gather in other locations such as shopping malls, movie theaters or community centers.

We know that it may be hard to get a doctor's appointment, go to a clinic or even be seen in a hospital emergency room. Here are some tips for helping those who are sick with influenza:

- Have them drink a lot of liquid (juice, water)
- Keep the sick person as comfortable as possible. Rest is important.
- For fever, sore throat and muscle aches, use ibuprofen (Motrin) or acetaminophen (Tylenol). Do not use aspirin with children or teenagers. It can cause Reye's syndrome, a life-threatening illness.
- Keep tissues and a trash bag within reach of the sick person.
- Be sure everyone in your home washes their hands frequently.
- Keep the people who are sick with influenza away from people who are not sick.

For more information, call your healthcare provider or visit the Macomb County Health Department website or call the Macomb County Health Department hotline at (586) 469-5473.

We will contact you as soon as we have information about when school will reopen.

MACOMB COUNTY HEALTH DEPARTMENT

Sample School Letter – 6

This letter may be used to inform parents that schools are open.

Dear Parent,

The Macomb County Health Department has declared that the influenza pandemic is under control. Our school will open again on _____. At this time, students may safely return to class.

Even though school is opening, there are still some people who are sick from influenza. Public health officials say that pandemic influenza outbreaks sometimes happen in waves. This means more people could become sick again. If more people get sick, schools may need to close again. We will continue to give you any important information.

Because influenza can still be spread from person-to-person, please keep children who are sick at home. Don't send them to school.

We are looking forward to seeing your children again.

*Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education
for sharing the template for this document.*

MACOMB COUNTY HEALTH DEPARTMENT

Sample Public Health School Closing Letter

Dear Superintendent,

The Macomb County Health Department is ordering all schools to close immediately due to the influenza pandemic. If you have any questions regarding this declaration, please call the Macomb County Health Department Communicable Disease Program at (586) 793-8190.

Because the virus is spread easily from person-to-person, it is no longer safe for children to attend class. Colleges, day care centers and preschools also have been ordered to close.

Please inform your students' parents and guardians immediately that school facilities will be closed to all activities, including sporting and non-academic events, and may remain closed for an extended period of time (for example, up to 6 weeks).

The purpose of closing schools is to decrease contact among children to decrease their risk of getting sick and to limit the spread of infection.

The Macomb County Health Department will keep school officials updated as the situation changes. A press release is being issued to inform the public of this declaration.

Director/Health Officer

Medical Director

MACOMB COUNTY HEALTH DEPARTMENT

Information for Parents to Prepare for an Influenza Pandemic

Prevention

To limit the spread of germs and prevent colds and influenza infection now and during an influenza pandemic:

- Teach your children to wash their hands frequently with soap and water for 20 seconds. Be sure to set a good example by doing this yourself.
- Teach your children to cover coughs and sneezes with tissue or by coughing into the inside of their elbow. Be sure to set a good example by doing this yourself.
- Teach your children to stay away from people who are sick. People who are sick should stay home from work or school and avoid other people until they are better.

Plan for an extended stay at home during an influenza pandemic.

- Ask your employer about how business will continue during a pandemic.
- Ask your employer if you can work from home during a pandemic.
- Plan for a possible reduction or loss of income, if you are unable to work or your place of employment is closed.
- Check with your employer or unions about leave policies.
- Plan home learning activities and exercises. Have materials, such as books, on hand.
- Plan recreational activities that your children can do at home.

Items to have on hand for an extended stay at home:

Non-perishable foods

- Ready to eat canned meats, fruits, vegetables, soups
- Protein or fruit bars
- Dry cereal or granola
- Peanut butter and jelly
- Crackers
- Canned juices
- Bottled water
- Canned or jarred baby food
- Baby formula
- Pet food

Health and emergency supplies

- Prescribed medications and medical supplies such as glucose and blood pressure monitoring equipment
- Soap and water or alcohol based hand wash
- Medicines for fever, such as acetaminophen or ibuprofen
- Thermometer
- Vitamins
- Fluids with electrolytes, such as Pedialyte®
- Flashlight with extra batteries
- Portable radio with extra batteries
- Manual can opener
- Garbage bags
- Tissues, toilet paper, disposable diapers

If someone in your family develops influenza symptoms (fever, cough, muscle aches):

- Encourage plenty of fluids to drink.
- Keep the ill person as comfortable as possible. Rest is important.
- For fever, sore throat, and muscle aches, use ibuprofen or acetaminophen.
- **Do not use aspirin in children or teenagers.** It can cause Reye's syndrome, a life-threatening illness.
- Sponging with tepid (wrist-temperature) water lowers fever only during the period of sponging. Do not sponge with alcohol.
- Keep tissues and a trash bag for their disposal within reach of the ill person.
- All members of the household should wash their hands frequently.
- Keep other family members and visitors away from the person who is ill.
- Contact a healthcare provider for further advice. If the ill person is having difficulty breathing or is getting worse, contact the healthcare provider right away.

If you have further questions, please contact your School Nurse or healthcare provider.

Recommendations may change during the course of an influenza pandemic. Up-to-date guidance will be available from your healthcare provider and at these websites:

www.macombcountymi.gov/publichealth

www.pandemicflu.gov

*Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education
for sharing the template for this document.*

MACOMB COUNTY HEALTH DEPARTMENT

**School Surveillance/Reporting Information
For Influenza-Like Illness (ILI)
During a Pandemic**

Surveillance and Reporting

During all stages of an influenza pandemic, it will be essential to monitor and document the number of students and faculty/staff who are absent and meet the case definition for influenza-like illness (ILI). Keeping track of these numbers will help the Macomb County Health Department determine when and whether to close schools, whether the epidemic is increasing or decreasing in scope and whether to declare a public health emergency.

Influenza Case Definition

The Centers for Disease Control and Prevention defines influenza-like illness (ILI) as an illness having the following signs and symptoms:

- Fever of 100°F or higher plus a cough or sore throat or both

A student with influenza-like illness signs and symptoms must be evaluated (symptom check and/or temperature measurement). If the student meets the case definition as described above, he/she must be excluded from school until symptom free.

Definition of Surveillance Levels

Standard Surveillance

No pandemic influenza virus activity reported in the community.

- Monitor daily attendance for increased reports of absence due to influenza-like illness.
- Report absences to the Macomb County Health Department Communicable Disease Program using routine reporting forms.

Heightened Surveillance

Pandemic influenza virus activity reported in the community (less than 10% school absenteeism due to influenza-like illness)

Appendix L-10

- Monitor daily attendance for influenza-like illness/absences.
- Begin morning 'flu check' first hour of school – screen those who report positive symptoms.
- Send **weekly** absence report to the Macomb County Health Department using Weekly Pandemic Influenza Reporting Form.

Intensive Surveillance

Increasing pandemic influenza virus activity reported in the community (10% or greater school absenteeism due to influenza-like illness)

- Continue morning 'flu check'.
- Send **daily** absence report to Macomb County Health Department using Daily Pandemic Influenza Reporting Form.
- Begin preparation for potential school closure

Acknowledgements to Contra Costa (CA) Health Services and the Contra Costa County Office of Education for sharing the template for this document.

MACOMB COUNTY HEALTH DEPARTMENT

Weekly Pandemic Influenza Reporting Form

Once pandemic influenza has been confirmed in Macomb County, use this form to report weekly to the Communicable Disease Program the number of students and staff/faculty absent with influenza-like illness (fever of 100°F or higher and one or both of the following: cough, sore throat).

Name of School _____ Week Ending _____

Elementary _____ Middle _____ High School _____

City _____ School District _____

Reporting Individual _____ Telephone Number _____

Students

Number of students absent with influenza-like illness this week _____

Total number of students enrolled in your school _____

Staff/Faculty

Number of staff/faculty absent with influenza-like illness this week _____

Total number of staff/faculty employed in your school _____

Assistance Needed/Comments:

**Fax this form each Friday during the period of Heightened Surveillance to the Communicable Disease Program at (586) 493-0075.
If you have questions regarding this form or disease reporting please call the Communicable Disease Program at (586) 783-8190.**

MACOMB COUNTY HEALTH DEPARTMENT

Daily Pandemic Influenza Reporting Form

Once pandemic influenza has been confirmed in Macomb County, use this form to report daily to the Communicable Disease Program the number of students and staff/faculty absent with influenza-like illness (fever of 100°F or higher and one or both of the following: cough, sore throat).

Name of School_____ Today's Date_____

Elementary_____ Middle_____ High School_____

City_____ School District_____

Reporting Individual_____ Telephone Number_____

Students

Number of students absent with influenza-like illness today _____

Total number of students enrolled in your school _____

Staff/Faculty

Number of staff/faculty absent with influenza-like illness today _____

Total number of staff/faculty employed in your school _____

Assistance Needed/Comments:

**Fax this form each day during the period of Intensive Surveillance
To the Communicable Disease Program at (586) 493-0075.
If you have questions regarding this form or disease reporting please
Call the Communicable Disease Program at (586) 783-8190.**

MACOMB COUNTY HEALTH DEPARTMENT

Local Government Agencies

Pandemic Influenza Planning Checklist

- ☐ Identify critical functions and processes that need to be provided during an emergency event although at a reduced level.
- ☐ Identify staff persons needed to carry out critical functions and processes.
- ☐ Identify staff persons that can be cross trained to backfill critical functions.
- ☐ Identify critical functions that can be accomplished via telecommuting.
- ☐ Identify functions that can be suspended while staff are reassigned to more critical functions.
- ☐ Identify the agency's technology needs related to large scale telecommuting and conference calling.
- ☐ Review human resources policies to determine whether staff can be prevented from remaining at work if symptomatic with influenza.
- ☐ Determine whether critical functions could be performed through flex scheduling (e.g., alternate work days, longer hours of operation).
- ☐ Review human resources and labor policies regarding sick leave and the implementation of flex scheduling.
- ☐ Promote public education campaigns about pandemic influenza with fact sheets, posters, or newsletters.
- ☐ Make alcohol hand gel and disinfectant wipes available and accessible to all staff.
- ☐ Develop mechanisms to track daily absenteeism and to report the percentages to the Macomb County Health Department if requested.

MACOMB COUNTY HEALTH DEPARTMENT

Law Enforcement

Pandemic Influenza Planning Checklist

This checklist provides guidance for law enforcement agencies in developing and improving influenza pandemic response plans. More information about pandemic influenza is available at www.pandemicflu.gov.

In the event of a global disease outbreak, law enforcement agencies will play a critical role in ensuring secure transportation of medical supplies, smooth operation of mass vaccination clinics and assistance with enforcing disease containment measures.

- ☐ Review the organization's mission to determine what functions would have to be altered in the event of a pandemic.
- ☐ Determine the potential impact of a pandemic on outside resources your organization depends on (vehicle towing, jail capacity, hospital services).
- ☐ Outline the organizational structure to be used during a pandemic when staffing is reduced, including key contacts with multiple back-ups and an alternative chain of command.
- ☐ Test your response and coordination using a drill or exercise.
- ☐ Review the authority granted to law enforcement to take action during a health emergency.
- ☐ Develop templates and messages for the organization's spokesperson to use during the outbreak to provide information to the public.
- ☐ Invite the Macomb County Health Department to provide an introductory briefing to command staff on influenza pandemics and avian influenza.
- ☐ Work with the Macomb County Health Department to educate staff and their families about pandemic and avian influenza, including prevention and treatment information.
- ☐ Provide individual and family preparedness guidance and information to staff.
- ☐ Educate and inform residents through crime watch groups, neighborhood councils, websites, community workshops and other mechanisms about the situation, the need for personal and family readiness and principles of self-care.

Appendix N

- ☐ Encourage local businesses to prepare for an influenza pandemic.
- ☐ Establish mechanisms to cover essential tasks if 30% of your staff were ill or caring for their seriously ill family members.
- ☐ Establish a list of critical priorities to be covered and determine alternative mechanisms for addressing these priorities.
- ☐ Work with the Macomb County Health Department to determine priority groups for the administration of vaccine and the use of antiviral medications.
- ☐ Review potential labor issues and consult with union representatives about emergency plans and policies.
- ☐ Review local and state mutual aid agreements.
- ☐ Establish/review written policies related to enforcement of quarantine orders and other restrictions.
- ☐ Consider vulnerable targets for crimes of opportunity and fraudulent schemes (e.g., vacated schools, office complexes, etc.).
- ☐ Consider the use of light duty for employees no longer infectious but still recovering from the effects of the illness.
- ☐ Establish policies and practices for preventing the spread of influenza at the worksite (e.g., requiring respiratory hygiene in places and situations with public interaction).
- ☐ Establish policies and thresholds for mandatory sick leave use to prevent the spread of influenza.
- ☐ Provide for sufficient and accessible infection control supplies for staff such as alcohol hand gel and tissues at convenient locations.
- ☐ Enhance communications and information technology needed to support employee telecommuting where possible.
- ☐ Work with the Macomb County Health Department, hospitals, and local emergency management to develop security plans for vaccination clinics, alternate care facilities, and storage facilities for medical supplies.
- ☐ Work with the Macomb County Medical Examiner regarding the security needs involved with storage and disposition of a large number of fatalities.

Acknowledgements to Contra Costa (CA) Health Services for sharing the template for this document.